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REPORTS OF STORAGE HOLDINGS OF CERTAIN FOOD PRODUCTS.

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INTRODUCTION.

The storing of food supplies during the season of production or in times of plenty for use in the season of nonproduction or in times of scarcity is as old as civilization itself. In fact, this custom, not unknown among savage races, is in a sense but the counterpart of the instinctive action of certain provident species of insects and other lower animals in the storing of their particular foods. Among human beings little if any progress could have been made along the road of civilization without intelligent action in the storing of certain nonperishable products, at least, and this custom is one of the first essentials in the development of wealth and power in any race or nation.

The storing of grains and other nonperishable products requires protection merely from moisture and from the greater extremes of temperature. The storing of fresh fruits and vegetables requires the arresting of life processes, and the storing of all perishable products, vegetable or animal, requires control of the development of bacteria. Until quite modern times the preservation of such products was prin-

cipally by the use of salt and other preservatives and by protection from the air, and it was only for limited periods and in moderate quantities that they were preserved in the fresh state by holding them at reduced temperatures. The more palatable and more nutritious character of these products when preserved in the fresh state has given such encouragement to further use of this method of preservation that a complete transformation has resulted in the character and economic importance of the storage industry. Since the year 1890 mechanical refrigeration has assumed great importance in the preservation and marketing of perishable and semiperishable products, and the present importance of the storage industry is in large measure due to the adoption and development of this process.

Aside from the carrying over of perishable and semiperishable foods in household economy from the season of production to the season of nonproduction, there is in the business world a sufficient motive for such preservation in the profit to be gained by buying at lower prices in times of plenty for sale at higher prices in times of scarcity. The commercial motive has been an incentive in the business of storing and preservation of foods at all times, and it exerts an equal force in the work of the cold-storage industry. The consequences, however, are not entirely commercial. Just as in the household the family in the season of nonproduction has the use and enjoyment of the food saved from the season of production, so in the commercial world the preservation of foods for seasons and years of scarcity is provided for by the accumulation of a surplus in times of plenty. The development of the cold-storage industry has made possible the holding of perishable foods in substantially the same condition as that in which they were first produced; and the quantities that will be held in the future under mechanical refrigeration need be limited only by the powers of production of foods and of providing such means of storage and by the prospective demand. Accordingly there have already resulted, and in the future there may be expected to result in even greater degree, economic consequences of the utmost importance.

The preservation of these articles in the fresh state from the season of greatest production to the seasons of scarcity tends to greater uniformity of prices throughout the year. On the one hand it tends to relieve a glutted market, and on the other hand it not only provides a supply in the season of nonproduction of commodities which could not be had at such times in the fresh state at all, but also provides a larger supply, consequently at lower prices, of such products as butter and eggs, which otherwise could be had only in smaller quantities. Of still greater consequence than the equalization of prices is the conservation and avoidance of waste in the season of large supply and the larger consumption because of less excessive prices in the

season of scarcity. Perhaps the greatest advantage of all lies in the widening of the market, the production of foods both in seasons best suited and in regions best adapted to their development, and the placing of them on the market in seasons of scarcity and in communities far remote from the localities of production.

As a result, the interests of producer, middleman, and consumer are brought more closely into harmony. With the assurance that waste will be avoided and that the entire product can be marketed, the producer will be encouraged to increase his output and can afford to sell his product at a lower price per unit. The consumer will inevitably buy on more favorable terms, since the providing of a large supply in seasons of scarcity must lower the extreme prices demanded at such times, and the increase of the total annual supply must result in placing the product on the market upon more favorable terms. The avoidance of waste for the middleman, owing to the holding of perishable products under favorable conditions of temperature during the marketing process, and the moving of such commodities in larger quantities through the markets, must result under conditions of reasonable competition in a smaller margin of profit per unit of the article handled, with corresponding advantage to producer and consumer. While in many instances there may be abuses in the commercial operations of the cold-storage industry, its general economic effects are highly advantageous and under present conditions of life almost indispensable, and its general operations should ordinarily prove commercially advantageous to all parties concerned.

One serious obstacle at present to further growth of this industry is an undue prejudice against commodities that have been held in cold storage. While it is true that in many instances goods held for the usual season in storage are somewhat less palatable than fresh stock, the difference in the price is ordinarily greater than is warranted by the difference in the quality of the goods. When the public has learned to purchase fresh and cold-storage products according to quality, a further increase in the use of cold-storage facilities, and accordingly in economic gain, will undoubtedly follow.

The dealer's success, however, is dependent upon so many factors that the most comprehensive information concerning market conditions is essential to such stability of the industry as will result from conducting cold-storage operations at reasonable and steady profits rather than at alternating excessive profits and losses. The industry can not attain complete success except by reducing the speculative element of the transactions to a minimum.

To this end it is necessary that in the storing season producers and dealers be supplied with information showing how much of each article is being stored, whether the quantity is more or less than usual, and whether under all the circumstances it is going into stor-

age at fair prices. When the stock is moving out of storage it is important to know how fast it is being disposed of, in order that on the one hand the dealer from previous experience or from records may be able to judge how quickly it must be moved to prevent competition with the product of the next season, and on the other hand the consumer may be able to determine whether under all the circumstances the existing supply is being offered at fair prices.

It is apparent that this information has a cumulative value. It is useful when comparisons are made between the current holdings and movements and those of the previous year, but it is more valuable when comparisons are made for a series of years, and its value increases with the completeness of the returns as inclusive of all holdings.

COLD-STORAGE REPORTS OF COMMERCIAL ORGANIZATIONS.

Many trade papers make monthly estimates of the quantities of certain products held in cold storage in various cities on the first of each month. Their sources of information are confidential, but it is well known that they are not based on actual knowledge, as they do not have the cooperation of all operators of warehouses. The data they publish are valuable but are confined to the holdings of a few of the great distributing centers.

For more than 10 years the American Warehousemen's Association has obtained such data from about 54 of the more important storages, regarding their holdings of creamery butter and eggs. The figures they have collected are especially valuable in that they cover a series of years and are based on the business of the same firms for almost the entire period.

The accompanying diagram (fig. 1) shows the average percentage of the creamery-butter holdings in storage on the first of each month of the year as reported to this organization. It is based on the average monthly holdings for a period of 10 years, from 1907 to 1916, inclusive, the average holdings on the 1st of September for the 10 years being 64,378,898 pounds.

It will be observed that more than three-quarters of the holdings in these warehouses are stored during the months of June and July, while most of the distribution is within the months of October to March, inclusive, about one-fourth of the total holdings being withdrawn during December. It appears from these figures that on an average only 6.9 per cent is carried over into the next season.

Figure 2 is a diagram showing the average monthly holdings of case eggs for the same date. The maximum holdings are shown to be in storage on August 1. During April, May, and June 84.5 per cent of all the eggs stored were placed in these warehouses. The deliveries extended over the months of August to February, inclusive, one-fourth of the stock being sold out in December. On the aver-

age, only four-tenths of 1 per cent of the holdings are carried through the month of February. It is the general custom to remove

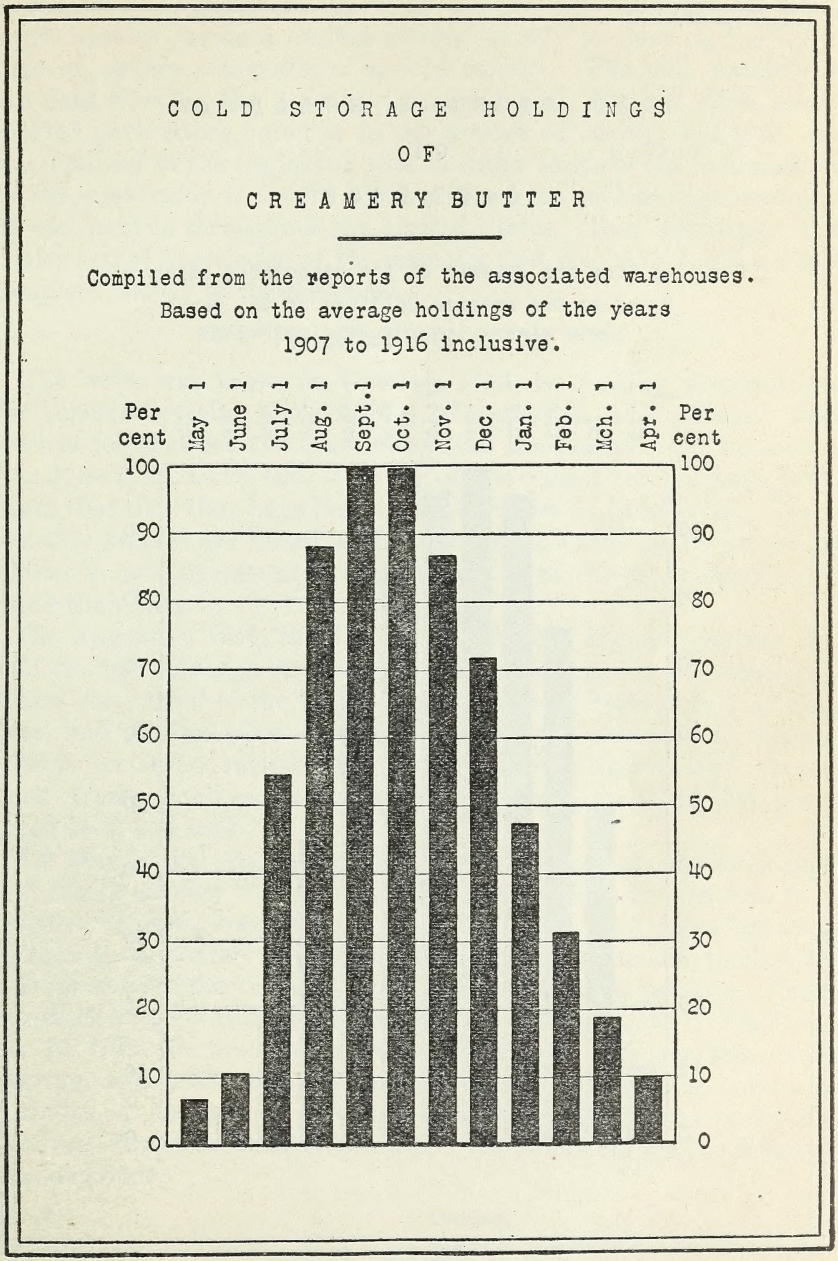

FIG. 1.

first from storage the eggs stored in July. It will be observed that 4.4 per cent of the total is stored during July and 4 per cent removed

during August, thus almost cleaning up the July eggs. The April eggs are the choicest storage stock and comprise 38.4 per cent of

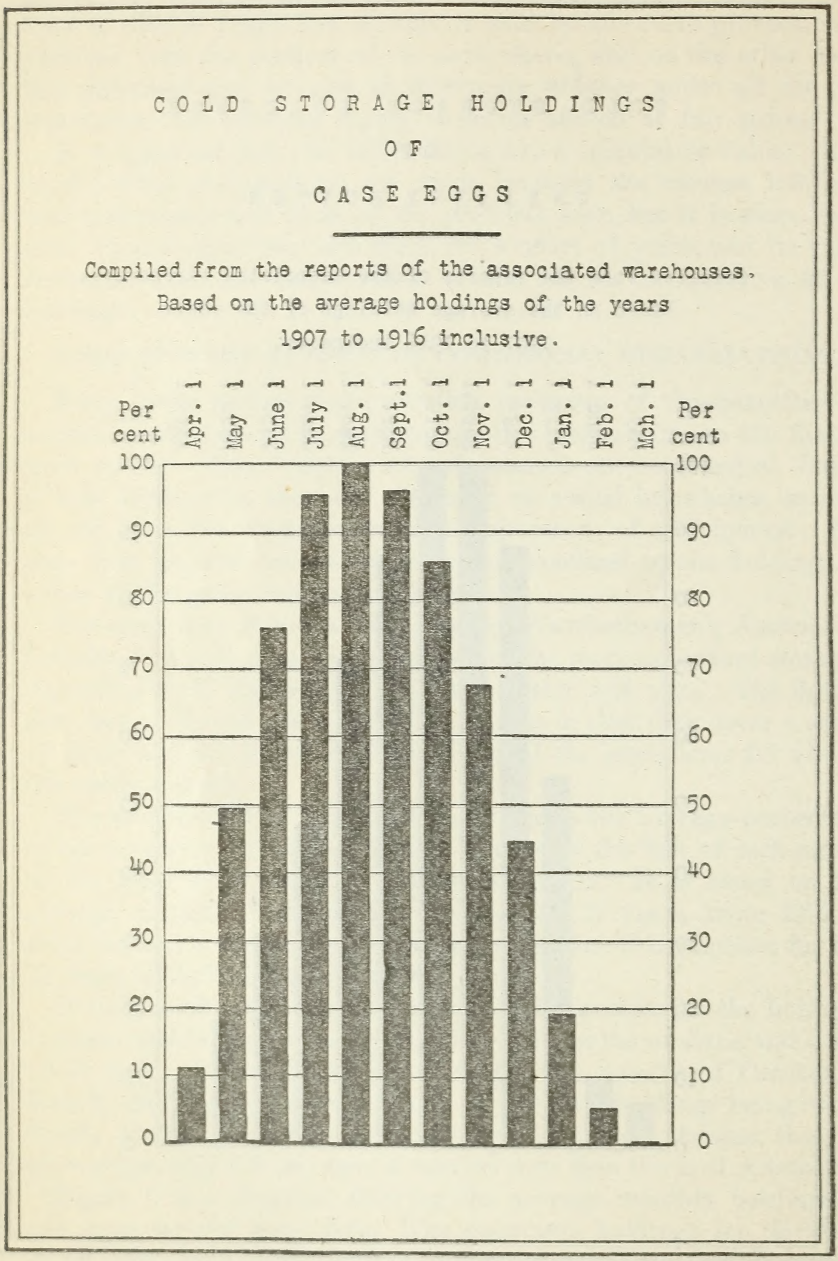

FIG. 2.

the total quantity stored. The average amount in storage on the first of August during the 10 years was 2,913,591 cases.

STORAGE REPORTS OF THE BUREAU OF MARKETS.

The reports of the Bureau of Markets of the United States Department of Agriculture showing the storage holdings of foodstuffs have so far been limited almost entirely to showing the holdings of certain commodities in cold storage. The only exceptions are data showing the quantities of cured beef, dry salt pork, sweet pickled pork either cured or in the process of curing, and lard. It was realized in the beginning that in order to make the information of the most value it should include all of the cold-storage holdings of each article throughout the United States. This would give the dealer actual knowledge of the quantity that was stored and a more complete history of its movement.

BEGINNING AND GROWTH OF THE WORK.

The work was begun in October, 1914, by making preparations for reports covering the holdings of apples in cold storage. The reports for the first two seasons covered the period from December 1 to June 1, inclusive, thus showing the movement from storage only. Since that time they have begun with a report on October 15. Semimonthly reports are issued until December 1, as the apples are being placed in cold storage at that time and the movement is much more rapid than later.

On August 1, 1916, the Bureau of Markets began reporting the cold-storage holdings of creamery butter and case eggs. American cheese was added to the list of commodities on September 1 of that year, and on December 1, 1916, the work was extended to include reports on seven varieties of meat products: Frozen beef, frozen pork, frozen lamb and mutton, dry salt pork, sweet pickled pork, cured beef, and lard.

On May 1, 1917, the first reports showing the stocks of frozen eggs and frozen poultry were issued. The poultry was divided into four classes: Broilers, roasters, fowls, and turkeys. All other poultry, including the poultry that the warehousemen were unable to classify, was reported under the head of miscellaneous frozen poultry. Packing-stock butter was added to the list on September 1, 1917. On October 15, 1917, the first report showing holdings of frozen fish, cured herring, and mild-cured salmon was issued. The report covers 22 varieties of frozen fish, and other varieties are grouped under the heading of miscellaneous frozen fish. The following are the different classifications:

Bluefish.
Butterfish.
Ciscoes.
Cod, hake, pollack, haddock.
Croakers.
Halibut.
Herring (including alewives, bluebacks, etc.)
Herring, cured.
Lake trout.

Mackerel (excepting Spanish).
Rock fishes (including grey and red cod).
Sablefish (black cod).
Salmon, fall.
Salmon, silver.
Salmon, others.
Sea bass.
Shad.
Shad roe.
Smelts, eulachon, etc.
Squid.
Weakfish.
Whitefish.
Whiting.

In order to relieve the congestion of work on compilations at the first of the month, incidental to the preparation of other storage reports, and thus enable the bureau to handle its work more economically, the reports for fish are obtained for the 15th of each month.

METHODS OF SECURING INFORMATION.

In securing the information two methods were available, one being to obtain reports from the owners of the goods, and the other to obtain the data from the cold-storage warehouses. Obviously one or the other of the methods had to be rigidly adhered to in order to prevent duplications.

The latter method was adopted, as it required a much smaller list of reports with less chance of error, and it was believed that cooperation could be secured more readily from the warehousemen than from the owners of the products. The principal difficulty encountered in the beginning of the work was the lack of any complete list of cold-storage warehouses. Various lists were consulted, but none proved complete. The first apple report was based on the holdings as reported by 289 cold storages. That the list was very incomplete is shown by the fact that the report of June 1, 1917, showed the apple holdings of 569 warehouses.

In June, 1916, the work of compiling a complete list of cold-storage warehouses was begun. Circulars were sent out to a list of more than 3,000 firms compiled from various sources. They were sent to all firms listed in any available records which, judging from their advertisements and descriptions of their business or equipment in trade publications and journals, might be conducting cold-storage plants. In addition, one cooperating firm in each city was asked to furnish a list of all cold-storage plants in that town. The returns were classified and resulted in increasing the list of known cold-storage warehouses to more than 1,000. Since that time many names and addresses have been secured from various sources, and the list has been extended to include packing-house plants having refrigerating apparatus. There were 1,450 names on the list of the Bureau of Markets on January 1, and it is believed it included practically all of the cold-storage plants in the country.

Blank forms are furnished to the cold-storage firms on which to submit their reports. These forms are mailed on the 8th and the 24th

of each month, the form mailed on the 8th being for the reports of the 15th, and those on the 24th to be used for the 1st of the following month. Warehouses in the States of Montana, Wyoming, Colorado, New Mexico, and west thereof are requested to telegraph their reports in addition to submitting the regular form by mail.

Prior to September 1, 1917, the success of the work was dependent upon the voluntary cooperation of the cold-storage warehouses. Naturally in such a large list of firms there were a few delinquents, some of which reported irregularly, and there were a few who absolutely refused their cooperation. Although the reports were not then entirely complete, the statements compiled from them gave a very clear idea as to the quantities stored and the percentage of movement.

After the entrance of the United States into the war the Sixty-fifth Congress passed legislation by which these reports may be required by the Secretary of Agriculture. Section 2 of Public No. 40, approved August 10, 1917, provides as follows:

> That the Secretary of Agriculture, with the approval of the President, is authorized to investigate and ascertain the demand for, the supply, consumption, costs, and prices of, and the basic facts, relating to the ownership, production, transportation, manufacture, storage, and distribution of, foods, food materials, feeds, seeds, fertilizers, agricultural implements and machinery, and any article required in connection with the production, distribution, or utilization of food. It shall be the duty of any person, when requested by the Secretary of Agriculture, or any agent acting under his instructions, to answer correctly, to the best of his knowledge, under oath or otherwise, all questions touching his knowledge of any matter authorized to be investigated under this section, or to produce all books, letters, papers, or documents in his possession, or under his control, relating to such matter. Any person who shall, within a reasonable time, to be prescribed by the Secretary of Agriculture, not exceeding 30 days from the date of the request, willfully fail or refuse to answer such questions or to produce such books, letters, papers, or documents, or who shall willfully give any answer that is false or misleading, shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not exceeding $1,000 or by imprisonment not exceeding one year, or both.

On August 17, 1917, the Secretary of Agriculture authorized and instructed the Chief of the Bureau of Markets to take such steps as might be necessary to acquire authorative information for the purposes of the act. As cold storage is an important factor in the conservation of food, information such as that covered by the monthly storage reports was considered essential to a thorough investigation under the act. Under the provisions of the Act three business days after the 1st or the 15th of each month are allowed by the Secretary for the preparation of the returns, and they must be mailed or telegraphed not later than the fourth business day.

COLD-STORAGE DEFINITIONS.

For the purpose of licensing and regulating cold-storage plants the following definitions were promulgated by the President. They are used by the Food Administration and by the Department of Agriculture:

1. *Cold-storage warehouse.*—A cold-storage warehouse shall mean any place artificially or mechanically cooled to or below a temperature of 45 degrees above zero Fahrenheit in which food products are placed and held for thirty days or more.

2. *Public cold-storage warehousemen.*—Any individual, firm, corporation, or association engaged in the business of maintaining and operating cold-storage warehouses in which food products are stored for hire or compensation, shall be called a public cold-storage warehouseman.

3. *Private cold-storage warehousemen.*—Any individual, firm, corporation, or association that maintains and operates as any adjunct to their business, cold-storage warehouses for the storage of food products exclusively owned or dealt in by them, shall be called a private cold-storage warehouseman.

4. *Combined public and private cold-storage warehousemen.*—Any individual, firm, corporation, or association which combines a public cold-storage warehouse business with a storage of commodities which directly or indirectly it owns, deals in, or otherwise has an interest in shall be called a combined public and private cold-storage warehouseman.

COMPILING THE REPORTS.

In addition to showing the actual quantities of the different commodities as reported from the warehouses, certain comparisons are made with the reports of other months, in order to show the relative amount in storage compared with previous dates and the relative increase or decrease in holdings during the month. In preparing the first reports showing the cold-storage holdings of apples for the season 1914–15, the comparison was made with the holdings of the season 1912–13, as it was believed that the holdings of that season were more nearly normal than those of the season 1913–14. Except for the first season, the holdings of the current year were compared with the holdings on the same date of the previous year. For the first season only, the total holdings of the United States were used in the comparison; but at the beginning of the season of 1915–16, the reports showed the holdings in each State. Later in that season it was decided to adopt a more convenient and probably more valuable grouping, and the reports are now issued showing the holdings of sections. The sectional grouping as finally adopted is shown in the accompanying map (fig. 3).

Besides comparing the reports of the current month with those of the same month in the preceding year, a comparison is made between the holdings of the current month and the holdings on December 1. This is to show the percentage of the amount stored for the season

that still remains in the warehouses. The same comparison is also made for the previous year, which shows the relative movement from storage during the two years.

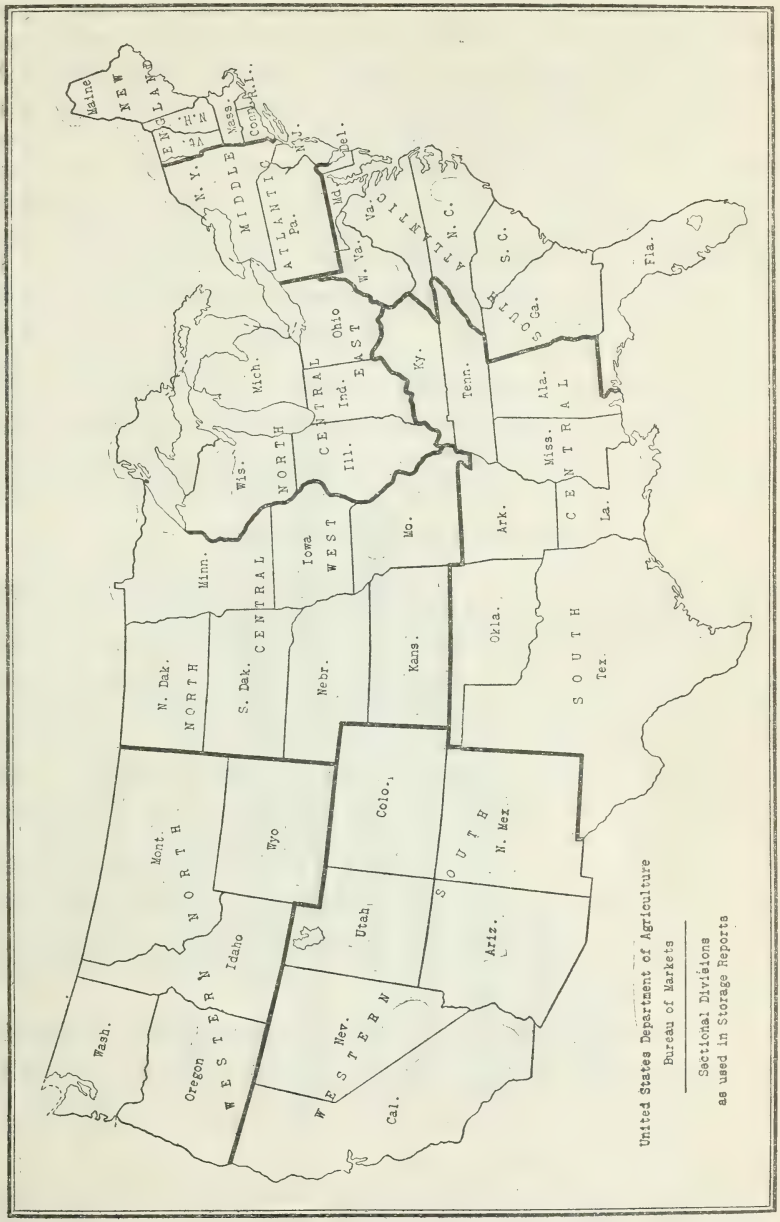

FIG. 3.

When the reports were extended to include the holdings of creamery butter, American cheese, and case eggs, the latter comparison was modified somewhat for these commodities. Instead of compar-

ing the holdings of the current month with the holdings of the maximum month, they are compared with the holdings of the preceding month, and the same comparison is made for the previous year. The comparison of the holdings of the current with the same month in the previous year is made for each section, while the comparison with the preceding month is made for the whole United States only. In comparing the holdings of any two months, the holdings of all firms not reporting for both months are eliminated from the comparisons. The reports of all commodities except fish show these comparisons and sectional divisions. The fish holdings are segregated into three sections only. The Atlantic section includes the New England, Middle, and South Atlantic States; the Western section includes Western North and Western South; all other States are included in the Central section. This seems to be the most logical grouping for reporting the storage of fish. It covers the three most important producing sections of the Atlantic coast, Pacific coast, and the Great Lakes. It does not differentiate between the Great Lake section and the Gulf of Mexico section, but as few fish are stored in the South Central States, this subdivision is considered unnecessary.

DISTRIBUTION OF THE INFORMATION.

A brief summary of the storage reports is furnished to the press through the Office of Information of the Department of Agriculture as soon as the returns are tabulated. Before it is released it is sent over the leased wires of the Bureau of Markets to its branch offices which are established in numerous cities throughout the United States. It is published in these offices at the same time that it is furnished to the press and press representatives in Washington. The value that the trade attaches to these reports is shown by the great demand for them and the prominence with which they are featured in the trade publications. Any person or firm not located in Washington or the cities in which branch offices are located may, upon application, receive the summaries or any part of them by telegraph, charges collect. Every effort is made to have these data reach all the interested parties at the same time.

As soon as possible after the information is compiled, the detailed reports are mimeographed and mailed. A copy of every report on all commodities is sent to each storage house on the mailing list. In addition to these firms, copies of any or all of the reports are sent to any person or firm requesting them.

When the first reports showing the holdings of apples in cold storage were issued, they were sent to a list, compiled from all available sources, of apple growers and dealers, and all of them were advised that the reports would be mailed to them regularly upon request.

COLD STORAGE HOLDINGS
OF
APPLES
Season 1916 - 1917

On December 1, 1916, 536 firms reported 2,845,075 barrels and 4,088,646 boxes or the equivalent of 4,207,957 barrels. That amount is taken as 100 per cent in this diagram.

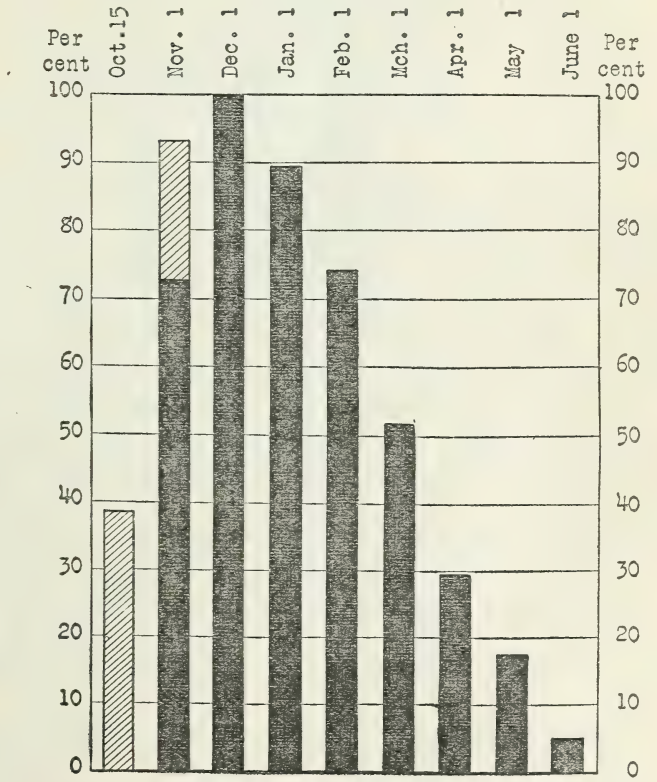

FIG. 4.

Copies were also sent to a selected list of trade papers and other publications.

As the work was extended to include other commodities, every effort was made to let the public know that the reports were available, free of cost, to anyone requesting them. Copies were sent to all dealers in these commodities in towns with a population of 25,000 or more and to a large list of producers. With the exception of the cold-storage warehouses, newspapers, trade publications, and certain Government officials, no reports are sent except upon request.

Approximately 75,000 copies of the reports for December, 1917, were mimeographed and mailed. Table 1 shows how they were distributed.

TABLE 1.—*Distribution of the storage reports of the Bureau of Markets on Dec. 1, 1917.*

Commodities.	News-papers.	Storages.	Govern-ment officials.	By request.	Total.
Apples	3,500	1,444	600	3,401	8,945
Creamery butter	3,500	1,444	600	3,485	9,029
American cheese	3,500	1,444	600	2,707	8,251
Case eggs	3,500	1,444	600	3,832	9,376
Frozen eggs	3,500	1,444	600	3,832	9,376
Frozen and cured meats	3,500	1,444	600	2,262	7,806
Frozen poultry	3,500	1,444	600	1,705	7,249
Packing-stock butter	3,500	1,444	600	3,485	9,029
Frozen and cured fish	3,500	1,444	600	18	5,562
Total	31,500	12,996	5,400	24,727	74,623

REVIEW OF THE 1916–17 STORAGE SEASON FOR APPLES.

This season's reports began with a tabulation of the holdings in 352 storages on October 15, 1916. They showed a stock of 949,147 barrels and 1,062,564 boxes. This was 47.8 per cent less than was stored on October 15 of the previous season. Most of these holdings were probably stored after October 1 and amounted to more than one-third of the total quantity placed in storage during the season. By November 1 almost three-fourths of the holdings of the season had been stored. The balance of the holdings, with the exception of about 7 per cent, were stored before the 15th of November.

The holdings of December 1 represented practically all the apples stored for the season. In the 450 storages reporting they amounted to 2,603,584 barrels and 3,913,290 boxes. Three boxes are equivalent to about one barrel in quantity, so these storages held approximately 3,908,000 barrels. The boxed apples therefore represented one-third of the total holdings. In 1915 the boxed apples comprised one-fifth, and in 1914 one-fourth, of the total holdings.

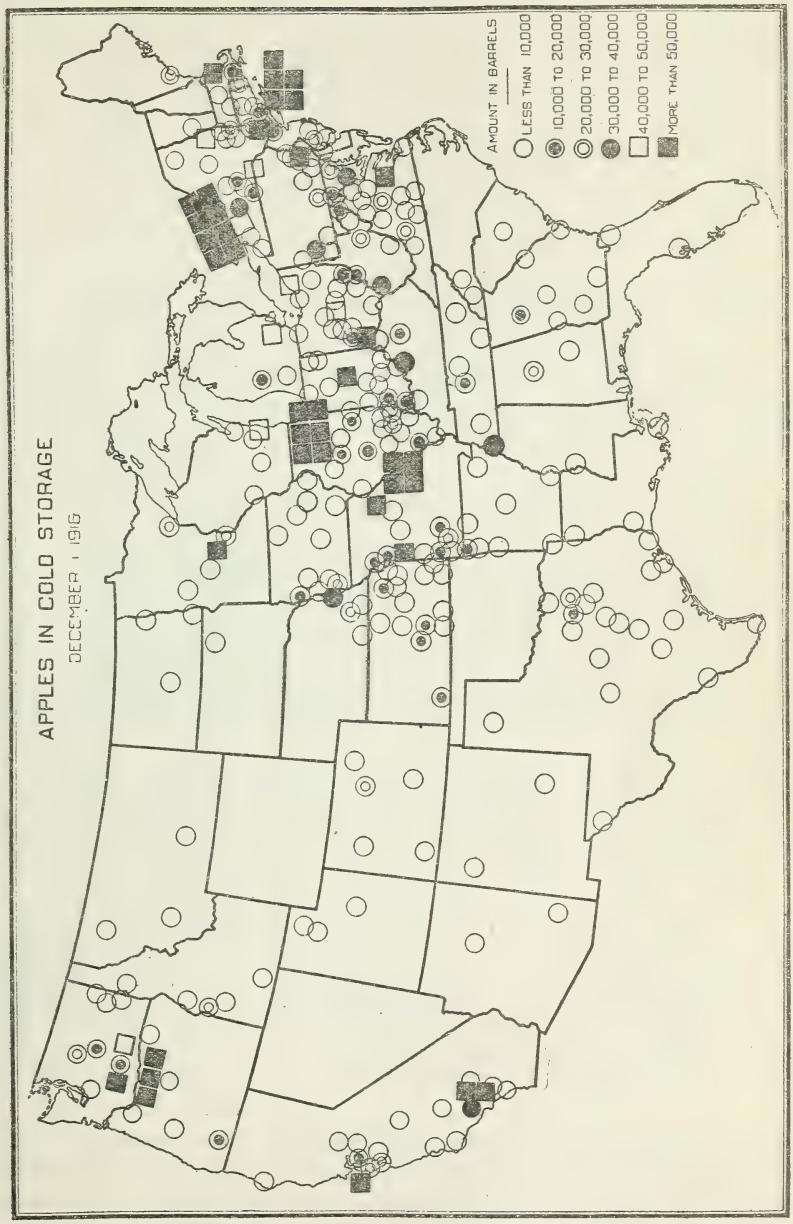
APPLES IN COLD STORAGE
DECEMBER 1, 1916
AMOUNT IN BARRELS
LESS THAN 10,000
10,000 TO 20,000
20,000 TO 30,000
30,000 TO 40,000
40,000 TO 50,000
MORE THAN 50,000

FIG. 5.

TABLE 2.—*Cold-storage holdings of apples as reported on Dec. 1, 1916.*

Section.	Storages reporting.	Barrels.	Boxes.	Combined.	Percentage in each section.
New England	13	112,177	94,418	143,650	3.9
Middle Atlantic	88	1,018,620	523,526	1,193,129	32.5
South Atlantic	31	180,809	22,174	188,200	5.1
North Central (east)	80	594,800	284,723	689,708	18.8
North Central (west)	59	364,328	560,140	551,041	15.0
South Central	40	151,208	209,388	221,004	6.0
Western (north)	24	.....	1,119,996	373,332	10.2
Western (south)	32	12	929,797	309,944	8.5
Total	367	2,421,954	3,744,162	3,670,008	100.0

Table 2 shows the holdings of each section, the number of storages reporting, and the percentage relation of each section's holdings to the total amount stored on December 1. Figure 4 shows the distribution of the holdings graphically. The report shows that the distribution of the barreled apples was radically different from that of the boxed apples. Except for the great distributing centers of New York and Chicago, the holdings of boxed apples were generally confined to the Western States, where apples are packed almost entirely in boxes. The great producing district of western New York stored an exceptionally large quantity of barreled apples locally. The proportionate quantity placed in cold storage there greatly exceeded that of the other producing sections.

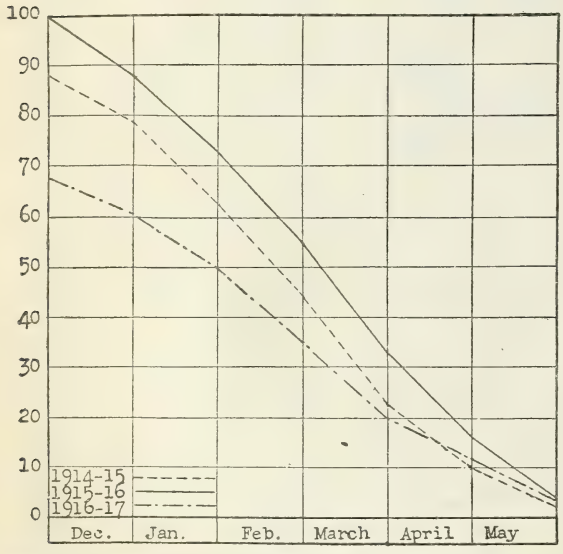

FIG. 6.—Comparative monthly holdings of apples in cold storage for the seasons of 1914–15, 1915–16, and 1916–17.

The total quantity stored for this season was approximately one-third less than was stored the previous year, but the boxed-apple holdings showed a slight increase. The season's holdings were also one-fifth less than in the season of 1914–15. The relative holdings and movement from storage of those three years are shown in figures 5. Figure 6 shows the comparative holdings on the 1st day of each month during the season, the hatched portion of the diagram showing the relative holdings on the 15th of the month. More apples were distributed during February and March than in any other

month. The holdings were reduced 44.6 per cent in those months. The distribution of the barreled-apple stock began earlier in the season than that of the boxed apples. The month of December showed a movement of 15 per cent of the former compared with one-tenth of 1 per cent of the latter, a reduction of 10 per cent in the total holdings.

By June 1 the holdings had been reduced to 163,806 barrels and 221,122 boxes, or about 5 per cent of the total quantity stored. The percentage of the barreled apples remaining in storage was approximately the same as the percentage of the boxed apples still held. There was a larger percentage left in storage on June 1 than in the previous two seasons. June 1, 1916, showed 4.3 per cent left in storage and June 1, 1915, 1.9 per cent.

REVIEW OF THE 1916–17 COLD-STORAGE SEASON FOR BUTTER.

The largest holdings of creamery butter for this season were reported on September 1, 1916. The quantity in storage at that time represented practically the entire amount stored for the season by the warehouses reporting. The report covered 268 storages and showed a stock of 105,806,003 pounds. This was approximately the same quantity as was stored in the previous season, there being only a difference of two-thirds of 1 per cent. The accompanying tabulation (Table 3) shows the holdings on September 1, segregated by sections. Only a very small proportion, approximately 10 per cent, was stored outside of the New England, Middle Atlantic, and North Central States. Of the 29.4 per cent stored in the North Central section, east of the Mississippi River, 22.4 per cent was stored in the city of Chicago.

TABLE 3.—*Cold-storage holdings of creamery butter as reported on Sept. 1, 1916.*

Section.	Storages reporting.	Pounds.	Percentage in each section.
New England	19	25,908,623	24.5
Middle Atlantic	55	30,263,797	28.6
South Atlantic	24	1,429,666	1.4
North Central (east)	46	31,133,057	29.4
North Central (west)	50	9,132,755	8.6
South Central	25	1,345,638	1.2
Western (north)	22	2,112,308	2.0
Western (south)	27	4,510,159	4.3
Total	268	105,836,003	100.0

Figure 7 shows the comparative holdings on the 1st of each month throughout the season. At the beginning of the season, on May 1, there were a little more than a million pounds already in storage. This may be considered the carry-over from the preceding season and amounted to a little more than 1 per cent of the holdings of September 1. All but 5 per cent of the season's total holdings were

placed in the warehouses during the months of June and July. Reports were issued showing the holdings on June 15 and July 15. The

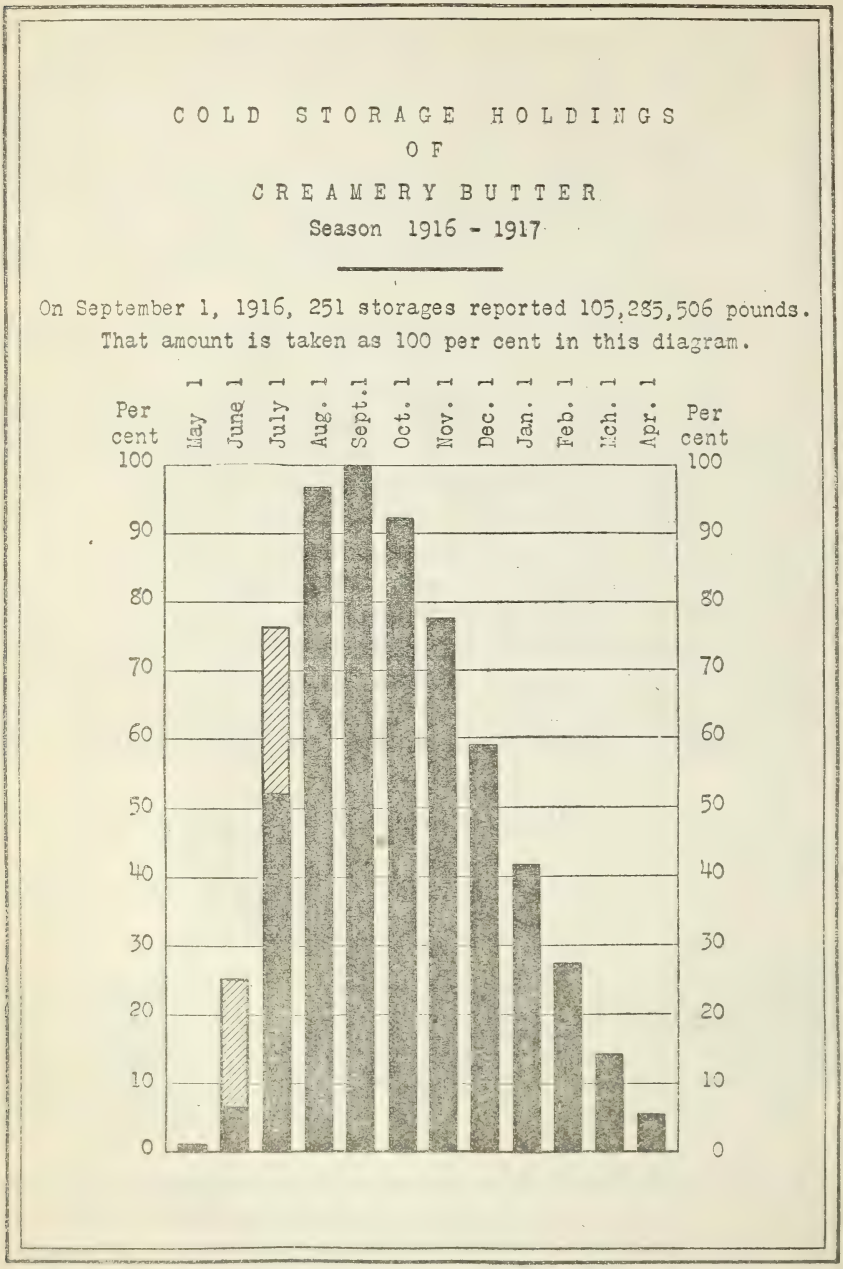

FIG. 7.

solid sections of the diagram indicate the relative holdings on the 1st of each month, while the hatched portions represent the relative in-

crease from the 1st to the 15th of that month. The distribution is quite evenly divided among the months of September to May, inclusive. It ranged from 18.6 per cent in November to 3.2 per cent in April. At the end of the season, on May 1, 1917, about 2½ per cent of the season's holdings still remained in storage, making a carry-over of twice the amount of the previous season.

TABLE 4.—*Monthly cold-storage holdings of creamery butter during the season of 1916 and 1917, and comparisons with holdings of preceding months.*

Date.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
June 1, 1916	173	6,760,071	1,064,464	+ 5,695,607	+535.1
July 1, 1916	173	52,576,210	6,782,641	+45,793,569	+675.2
Aug. 1, 1916	184	98,132,744	52,816,057	+45,316,687	+ 85.8
Sept. 1, 1916	233	104,950,786	101,606,527	+ 3,344,259	+ 3.3
Oct. 1, 1916	251	97,092,876	105,285,506	− 8,192,630	− 7.8
Nov. 1, 1916	303	83,248,135	98,758,024	−15,509,889	− 15.7
Dec. 1, 1916	293	64,632,056	83,687,857	−19,055,801	− 22.8
Jan. 1, 1917	248	42,787,367	60,377,710	−17,590,343	− 29.1
Feb. 1, 1917	249	29,982,089	45,753,022	−15,770,933	− 34.5
Mar. 1, 1917	257	15,467,475	29,808,296	−14,340,821	− 48.1
Apr. 1, 1917	265	6,208,763	15,679,464	− 9,470,701	− 60.4
May 1, 1917	252	2,553,912	6,046,958	− 3,493,046	− 57.8

The cold-storage holdings of packing-stock butter for December 1, 1917, are shown in Table No. 5, which also shows the relative amounts stored in each section. The distribution of this class of butter was radically different from that of creamery butter. The New England storages, which held almost one-fourth of the creamery butter, carried practically no packing-stock butter. The South Atlantic section, having only 1½ per cent of the creamery butter, carried almost one-fifth of the packing stock. The holdings of December 1, 1917, amounted to about three-fourths of the holdings of the previous year. The amount in storage on December 1 was approximately one-third of the total amount stored for the season.

TABLE 5.—*Cold-storage holdings of packing-stock butter as reported on Dec. 1, 1917.*

Section.	Total holdings Dec. 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	Dec. 1, 1916.	Dec. 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	2	360	0.0	1	50	360	+620.0
Middle Atlantic	17	302,934	13.0	12	550,513	290,363	− 47.3
South Atlantic	12	423,575	18.2	9	141,687	368,301	+159.9
North Central (east)	34	690,856	29.8	27	541,664	463,918	− 14.4
North Central (west)	38	598,112	25.7	33	973,667	275,273	− 71.7
South Central	18	161,238	6.9	11	17,555	146,131	+732.4
Western (north)	8	55,674	2.4	4	12,670	46,326	+265.6
Western (south)	6	93,174	4.0	4	46,171	81,226	+ 75.9
Total	135	2,325,923	100.0	101	2,283,977	1,671,898	− 26.8

REVIEW OF THE 1916–17 COLD-STORAGE SEASON FOR AMERICAN CHEESE.

The Bureau of Markets began issuing reports on American cheese on September 1, 1916. This month's holdings represented practically the total quantities stored by the 290 storages which reported. They showed a total stock of 45,069,014 pounds, which was about 3 per cent less than the quantity stored in the previous season. However, this was the first report issued by the bureau regarding the stocks of this product, and the cooperation of all the cold-storage warehouses had not yet been secured; therefore this percentage may not be as accurate as the percentages secured in later reports.

The accompanying tabulation (Table 6) shows the holdings of September 1, segregated by sections, and the percentage of the holdings that were stored in each section. It will be observed that the Middle Atlantic States held 33.5 per cent of the total holdings. This section includes the great producing district of New York State and the holdings of the great distributing center of New York City. The producing district in the States of Wisconsin and Minnesota is divided between the sections of North Central east of the Mississippi River and North Central west of the Mississippi. The great difference between the holdings of these two sections is accounted for by the quantity held in Chicago, as the warehouses in that city held 16.7 per cent of the total holdings.

TABLE 6.—*Cold-storage holdings of American cheese as reported on Sept. 1, 1916.*

Section.	Storages reporting.	Pounds.	Percentage in each section.
New England	14	5,368,958	11.9
Middle Atlantic	66	19,619,664	43.5
South Atlantic	24	2,090,844	4.6
North Central (east)	68	9,348,859	20.8
North Central (west)	39	3,111,458	6.9
South Central	33	523,411	1.2
Western (north)	19	917,671	2.0
Western (south)	27	4,088,149	9.1
Total	290	45,069,014	100.0

The accompanying chart (fig. 8) shows the relative holdings on the first of each month during the season, using 100 per cent as the base representing the holdings of September 1. It shows that the cheese was placed in storage during the months of May, June, July, and August. More was stored during July than in any other month, about 40 per cent of the season's total holdings being placed in storage during that month. One-fourth of the holdings was stored during June and one-eighth during the month of August. The distribution of the stock extended over the months of September to April, inclusive,

varying from 3 to 23 per cent monthly. The month of April showed the most deliveries and the month of January the fewest.

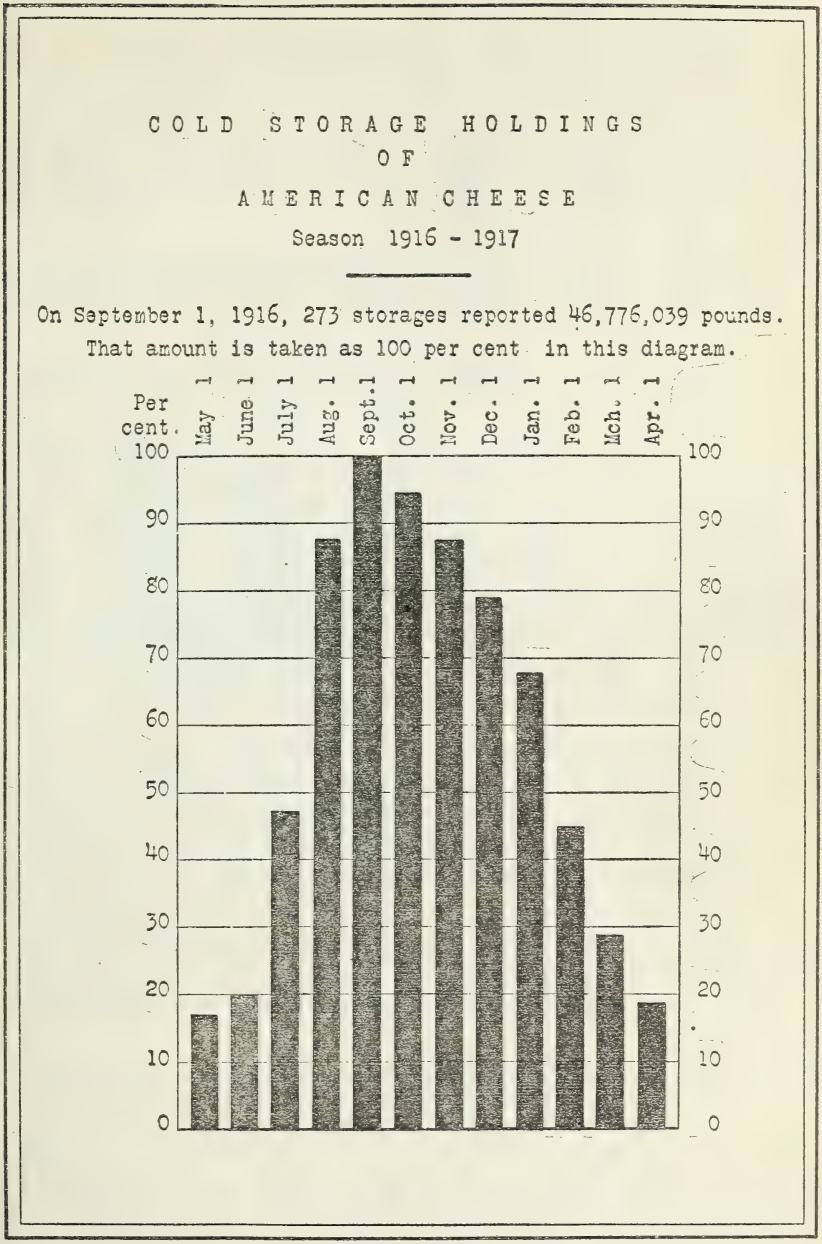

FIG. 8.

By April 1, the holdings had been reduced to 8,768,185 pounds, as reported by 347 firms. This was approximately 18½ per cent of the season's total holdings. An additional decrease of 8 per cent occurred

during the month of April, leaving 15 per cent in storage on May 1. The percentages of decrease, however, in the latter part of the season do not represent actual deliveries. The reports as published by the Bureau of Markets showed the holdings on the 1st of each month, and at this time some of the new stock was no doubt being placed in storage before all of the old stock was removed. The percentages, therefore, merely show the net decrease during those months. Table 7 shows the holdings of each month compared with those of the preceding month throughout the season, as published in the monthly reports of the bureau.

TABLE 7.—*Monthly cold-storage holdings of American cheese during the season of 1916 and 1917 and comparisons with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
June 1, 1916	193	6,968,252	5,993,157	+ 975,095	+ 16.3
July 1, 1916	171	14,663,283	6,207,065	+ 8,456,218	+136.2
Aug. 1, 1916	183	30,512,859	16,432,758	+14,080,101	+ 85.7
Sept. 1, 1916	198	33,545,179	29,421,708	+ 4,123,471	+ 14.0
Oct. 1, 1916	273	44,308,627	46,776,039	− 2,467,412	− 5.3
Nov. 1, 1916	347	44,694,020	48,362,759	− 3,668,739	− 7.6
Dec. 1, 1916	212	31,833,373	37,569,742	− 5,736,369	− 15.3
Jan. 1, 1917	291	28,831,149	33,565,749	− 4,734,600	− 14.1
Feb. 1, 1917	282	19,789,865	29,934,336	−10,144,471	− 33.9
Mar. 1, 1917	289	12,422,176	19,185,047	− 6,762,871	− 35.3
Apr. 1, 1917	321	8,506,087	13,329,133	− 4,823,046	− 36.2
May 1, 1917	309	6,969,562	8,411,022	− 1,441,460	− 17.1

REVIEW OF THE 1916–17 COLD-STORAGE SEASON FOR EGGS.

The cold-storage holdings of eggs reached their highest point on August 1. The 312 cold storages that reported held 6,060,129 cases of eggs on that date. The season's holdings were comparatively small, being only three-fourths as great as in the previous season. It should be considered, however, that an exceptionally large quantity was stored during the season of 1915–16. The distribution of the holdings is shown in Table 8. The warehouses in the Middle Atlantic and North Central sections held more than 80 per cent of the total. The major portion was held in the cities of New York, Philadelphia, and Chicago.

TABLE 8.—*Cold-storage holdings of case eggs as reported on Aug. 1, 1916.*

Section.	Storages reporting.	Cases.	Percentage in each section.
New England	15	569,542	9.4
Middle Atlantic	55	1,889,362	31.2
South Atlantic	16	74,299	1.2
North Central (east)	62	1,943,574	32.1
North Central (west)	70	1,082,025	17.8
South Central	38	133,744	2.2
Western (north)	22	79,262	1.3
Western (south)	34	288,320	4.8
Total	312	6,060,129	100.0

TABLE 9.—*Monthly cold-storage holdings of case eggs during the season 1916 and 1917, and comparison with holdings of preceding month.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Cases.	*Per cent.*
April 1, 1916	212	182,706	34,439	+ 148,267	+430.5
May 1, 1916	233	2,269,851	261,257	+2,008,594	+768.8
June 1, 1916	236	4,493,350	2,353,332	+2,140,018	+ 90.9
July 1, 1916	224	5,440,704	4,485,255	+ 955,449	+ 21.3
Aug. 1, 1916	235	5,652,571	5,370,530	+ 282,041	+ 5.3
Sept. 1, 1916	296	5,437,412	6,064,623	− 627,211	− 10.3
Oct. 1, 1916	325	4,751,788	5,607,562	− 855,774	− 15.3
Nov. 1, 1916	364	3,577,956	4,789,945	−1,211,989	− 25.3
Dec. 1, 1916	374	2,108,969	3,543,636	−1,434,667	− 40.5
Jan. 1, 1917	272	896,826	2,089,344	−1,192,518	− 57.1
Feb. 1, 1917	264	146,141	897,642	− 751,501	− 13.7
March 1, 1917	260	4,100	144,257	− 140,157	− 97.2

Table 9 shows the monthly increase and decrease throughout the season, and figure 9 shows graphically the relative holdings on the first of each month, from April 1, 1916, to March 1, 1917. The solid portions of the diagram show the holdings on the first of the month, while the hatched portions under May and June show the increase from the 1st to the 15th of these months. All but about 10 per cent of the holdings were stored during April, May, and June, and practically all that were stored after June 15 were removed from storage before the 1st of September. Five per cent of the total holdings was already in storage on April 1. The monthly decreases of the season's total holdings were as follows:

	Per cent.		Per cent.
August	10.3	December	19.2
September	13.7	January	12.1
October	19.2	February	1.7
November	23.1		

A little more than one-tenth of 1 per cent still remained in storage on March 1, 1917.

TABLE 10.—*Cold-storage holdings of frozen eggs as reported on Sept. 1, 1917.*

Section.	Total holdings, Sept. 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	Sept. 1, 1916.	Sept. 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	7	102,066	0.6	5	55,595	59,116	+ 6.3
Middle Atlantic	28	7,899,779	46.4	12	1,481,083	7,365,836	+ 397.3
South Atlantic	7	143,162	.9				
North Central (east)	36	4,137,173	24.3	24	2,372,730	3,178,399	+ 34.0
North Central (west)	40	3,787,404	22.3	30	999,437	3,436,913	+ 243.9
South Central	12	122,176	.7	8	14,083	50,886	+ 271.2
Western (north)	9	266,672	1.6	6	140,059	90,176	− 35.6
Western (south)	9	545,143	3.2	6	160,499	527,045	+ 228.4
Total	148	17,008,575	100.0	91	5,223,486	14,768,351	+ 181.6

The bureau began issuing reports showing the holdings of frozen eggs on May 1, and the holdings of September 1 were larger than for

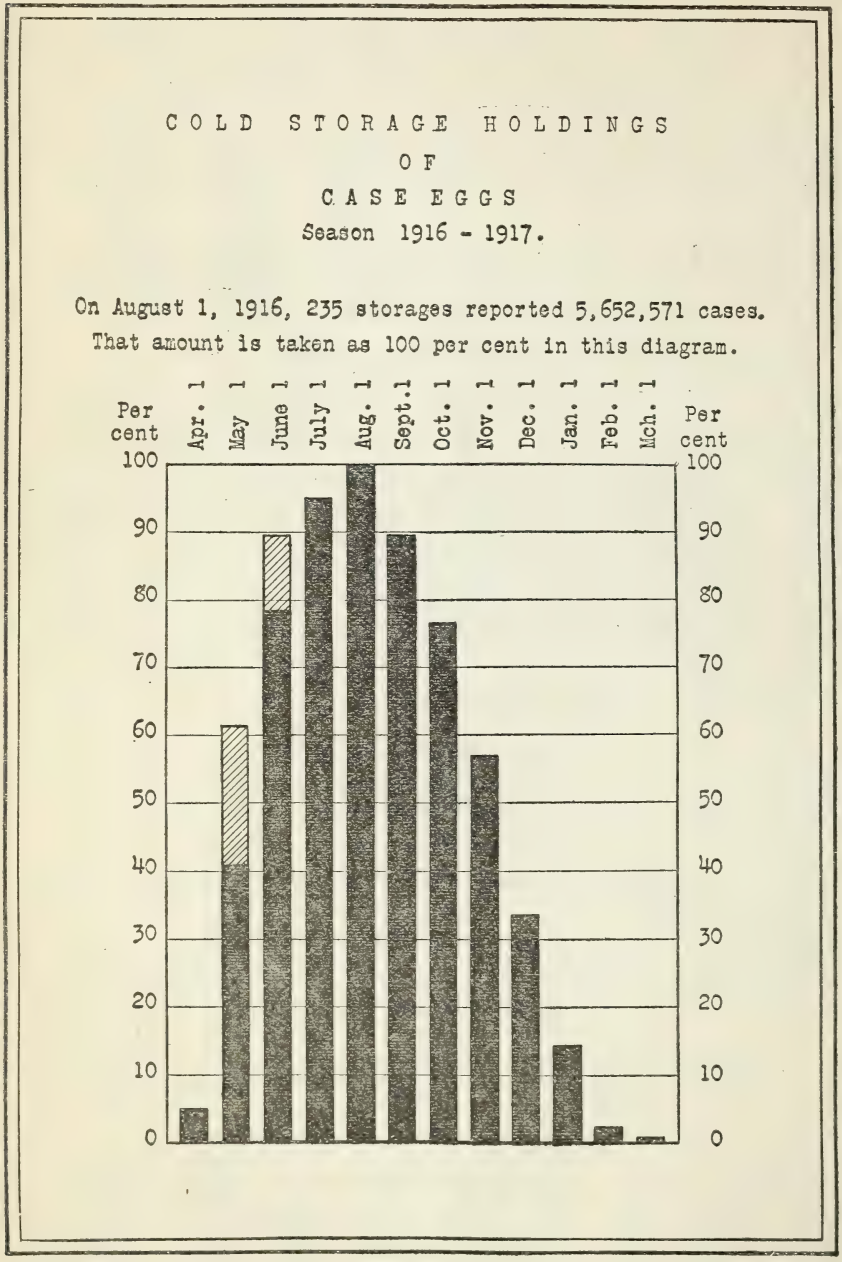

FIG. 9.

any other month during the season. Table 10 shows the holdings for that date, segregated by sections and compared with those on the

same date in the previous season. This comparison, based on the holdings of 91 cold-storage plants, showed an increase of more than 180 per cent over the previous year's stocks. Two-thirds of the stock were stored in the Middle Atlantic and North Central sections. The holdings decreased during the months of September, October, and November, but increased during December. The monthly decreases as indicated in the reports showed a very slow movement. As this product is largely used by bakeries and confectioners, its use was probably curtailed by the shortage of sugar.

REVIEW OF THE 1917 COLD-STORAGE HOLDINGS OF FROZEN AND CURED MEATS AND LARD.

The reports of the Bureau of Markets for the year 1917 showed the holdings and movement of approximately a billion pounds of frozen and cured meats and of lard. The commodities reported were frozen beef, pork, and lamb and mutton, cured beef, dry salt and sweet pickled pork, and lard. The maximum holdings during the year of the different commodities were as follows:

	Pounds.
Frozen beef, December 1	277,284,941
Cured beef, January 1	37,301,283
Frozen pork, August 1	94,119,901
Dry salt pork, March 1	249,218,917
Sweet pickled pork, July 1	412,328,689
Lard, August 1	111,943,363
Lamb and mutton, frozen, January 1	4,885,678

TABLE 11.—*Cold-storage holdings of frozen beef as reported on Dec. 1, 1917.*

Section.	Total holdings, Dec. 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	Dec. 1, 1916.	Dec. 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	37	18,228,689	6.6	26	2,681,058	5,886,771	+119.6
Middle Atlantic	79	41,229,183	14.9	63	34,407,083	36,866,293	+ 7.1
South Atlantic	30	1,516,723	.6	25	1,215,160	1,194,098	− 1.7
North Central (east)	75	147,036,771	53.0	64	83,213,567	141,837,668	+ 70.5
North Central (west)	52	52,053,458	18.8	46	28,926,292	47,884,209	+ 65.5
South Central	29	6,281,454	2.2	21	4,014,663	5,901,801	+ 47.0
Western (north)	25	6,420,835	2.3	22	1,780,058	4,383,245	+146.2
Western (south)	34	4,517,828	1.6	30	1,910,123	4,469,464	+134.0
Total	361	277,284,941	100.0	297	158,148,004	248,423,549	+ 57.1

TABLE 12.—*Storage holdings of cured beef as reported on Dec. 1, 1917.*

Section.	Total holdings, Dec. 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	Dec. 1, 1916.	Dec. 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	30	1,754,432	4.3	28	997,211	1,698,632	+ 70.3
Middle Atlantic	103	5,431,904	13.8	85	5,052,737	5,098,148	+ 0.9
South Atlantic	29	586,049	1.5	27	224,830	579,299	+157.7
North Central (east)	95	17,700,741	44.9	85	18,379,308	17,571,286	− 4.4
North Central (west)	40	12,393,969	31.4	38	12,552,700	12,296,694	− 2.0
South Central	17	545,597	1.4	13	238,213	513,433	+115.5
Western (north)	23	458,888	1.2	19	151,156	393,604	+160.4
Western (south)	24	588,175	1.5	23	361,431	578,175	+ 60.0
Total	361	39,459,755	100.0	318	37,957,586	38,729,271	+ 2.0

It will be observed that more than half of the frozen beef was stored in the North Central East section. Approximately 15 per cent was stored in the Middle Atlantic section and 19 per cent in the North Central West section. The sections of New England, South Atlantic, South Central, and Western North and South held only 13.3 per cent of the total holdings. These latter sections held approximately 10 per cent of the holdings of cured beef, approximately 45 per cent being stored in the North Central East and 3.4 in the North Central West section. Approximately 14 per cent was stored in the Middle Atlantic section.

TABLE 13.—*Cold-storage holdings of frozen pork as reported on Aug. 1, 1917.*

Section.	Total holdings Aug. 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	Aug. 1, 1916.	Aug. 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	25	10,403,625	11.1	12	6,223,914	7,442,782	+19.6
Middle Atlantic	54	6,059,359	6.5	30	4,911,019	3,901,849	−20.5
South Atlantic	17	95,712	.1	7	2,000	16,000	+700.0
North Central (east)	56	30,983,387	33.0	35	33,050,916	28,067,758	− 15.1
North Central (west)	46	37,355,361	39.9	38	32,414,257	34,065,783	+ 5.1
South Central	20	2,759,438	2.9	13	3,446,281	2,203,379	− 36.1
Western (north)	13	2,779,515	3.0	10	4,175,049	2,274,346	− 45.5
Western (south)	22	3,248,013	3.5	15	1,621,745	2,047,658	+ 26.3
Total	253	93,684,410	100.0	160	85,845,181	80,019,555	− 6.8

TABLE 14.—*Storage holdings of dry salt pork as reported on Mar. 1, 1917.*

Section.	Total holdings Mar. 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	Mar 1, 1916.	Mar. 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	17	8,694,867	3.5	9	7,577,496	7,487,092	− 1.2
Middle Atlantic	50	7,830,407	3.2	38	5,020,292	6,611,520	+31.7
South Atlantic	27	3,631,022	1.5	20	3,220,101	3,203,254	− 0.5
North Central (east)	95	120,156,384	48.8	75	107,449,792	117,256,613	+ 9.1
North Central (west)	67	92,345,743	37.5	61	88,086,420	92,136,180	+ 4.6
South Central	25	10,257,985	4.2	18	10,545,524	8,971,482	−14.9
Western (north)	21	1,216,750	.5	19	2,306,014	1,216,078	−47.3
Western (south)	20	2,058,024	.8	19	2,704,139	2,057,564	−23.9
Total	322	246,191,182	100.0	259	226,909,778	238,939,783	+ 5.3

TABLE 15.—*Storage holdings of sweet pickled pork as reported on July 1, 1917.*

Section.	Total holdings July 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	July 1, 1916.	July 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	29	28,920,655	7.3	20	17,718,955	25,127,365	+41.8
Middle Atlantic	94	21,996,996	5.5	61	18,438,123	17,872,346	− 3.1
South Atlantic	35	5,302,610	1.3	24	5,384,016	4,666,784	−13.3
North Central (east)	119	142,934,579	35.9	90	132,676,127	132,669,253	.....
North Central (west)	64	162,468,814	40.8	55	152,083,076	157,841,343	+ 3.8
South Central	25	17,487,454	4.4	15	16,652,798	16,633,909	− 0.1
Western (north)	33	7,284,811	1.8	24	8,788,283	5,607,954	−36.2
Western (south)	31	11,985,603	3.0	24	7,558,808	10,273,067	+35.9
Total	430	398,380,922	100.0	313	359,300,186	370,692,021	+ 3.2

TABLE 16.—*Cold-storage holdings of lard as reported on July 1, 1917.*

Section.	Total holdings July 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	July 1, 1916.	July 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	27	10,800,930	12.6	15	7,996,173	9,484,948	+18.6
Middle Atlantic	86	6,013,098	7.0	58	3,184,877	5,006,562	+57.2
South Atlantic	42	2,091,989	2.5	30	1,133,634	1,941,973	+71.3
North Central (east)	112	38,504,135	45.0	82	51,814,861	35,926,976	−30.7
North Central (west)	67	19,334,157	22.6	55	15,372,207	17,466,132	+13.6
South Central	37	2,342,484	2.7	19	2,359,834	2,095,273	−11.2
Western (north)	31	2,654,212	3.1	23	2,552,013	2,006,149	−21.4
Western (south)	32	3,826,563	4.5	25	2,713,776	3,776,078	+39.1
Total	434	85,567,568	100.0	307	87,127,375	77,704,091	−10.8

The holdings of frozen pork differed from the holdings of beef in that a much larger percentage was stored in the New England States. The North Central sections held almost 73 per cent of the

total holdings, the South Atlantic section having only one-tenth of 1 per cent. Only 13.7 per cent of the holdings of dry salt pork was stored outside of the North Central sections, nearly half of the total holdings being stored in the North Central East section. The holdings of sweet pickled pork were distributed in approximately the same proportions, a little more being stored in the New England and the Middle Atlantic sections. Approximately 73 per cent of the lard was stored in the North Central sections and 12.6 per cent in the New England section. The balance of the holdings was very evenly distributed among the other sections excepting the Middle Atlantic section, which held 7 per cent. A much larger proportion, 24.2 per cent, of the holdings of frozen lamb and mutton was held in the Middle Atlantic States; 60 per cent was stored in the North Central States, 6.3 per cent in the New England States, and 7.3 per cent in the South Central States. No firms in the South Atlantic States reported any holdings of frozen lamb and mutton on January 1, either for 1916 or 1917.

TABLE 17.—*Cold-storage holdings of frozen lamb and mutton as reported on January 1, 1917.*

Section.	Total holdings, Jan. 1, 1917.			Comparison with 1916.			
	Storages reporting.	Pounds.	Percentage in each section.	Storages reporting.	Jan. 1, 1916.	Jan. 1, 1917.	Increase or decrease.
					Pounds.	*Pounds.*	*Per cent.*
New England	8	346,497	6.3	5	284,611	300,497	+ 5.6
Middle Atlantic	34	1,329,754	24.2	26	1,748,499	1,184,460	− 32.3
South Atlantic							
North Central (East)	18	2,214,763	40.2	16	2,237,492	2,088,763	+ 6.6
North Central (West)	19	1,089,515	19.8	18	408,166	1,089,465	+166.9
South Central	8	399,271	7.3	7	118,833	398,821	+235.6
Western (North)	4	77,464	1.4	2	34,000	75,529	+122.1
Western (South)	11	47,993	.8	10	143,927	47,697	− 66.9
Total	102	5,505,257	100.0	84	4,975,528	5,185,232	+ 4.2

Figures 10 to 16, inclusive, show the relative holdings on the 1st of each month during the year of 1917, and figures 17 to 23, inclusive, show the comparative holdings of the years 1916 and 1917.

The division between the holdings of each season is not nearly so clearly defined in the meat-storage reports as it is in the reports of the other commodities. The holdings of frozen beef reached their lowest point on June 1, when 39.8 per cent of the December 1 holdings were stored. On August 1, 63.9 per cent of the January 1 holdings were still in storage. The holdings of frozen pork reached a lower point than any of the other meat products, 27.5 per cent of the holdings of August 1 being held on December 1. Dry salt pork dropped down to 45.9 per cent and sweet pickled pork to 47.2 per cent on November 1. The lard holdings had a very rapid movement

in the latter part of the year. The maximum holdings of the year, which occurred on August 1, were decreased by two-thirds by Novem-

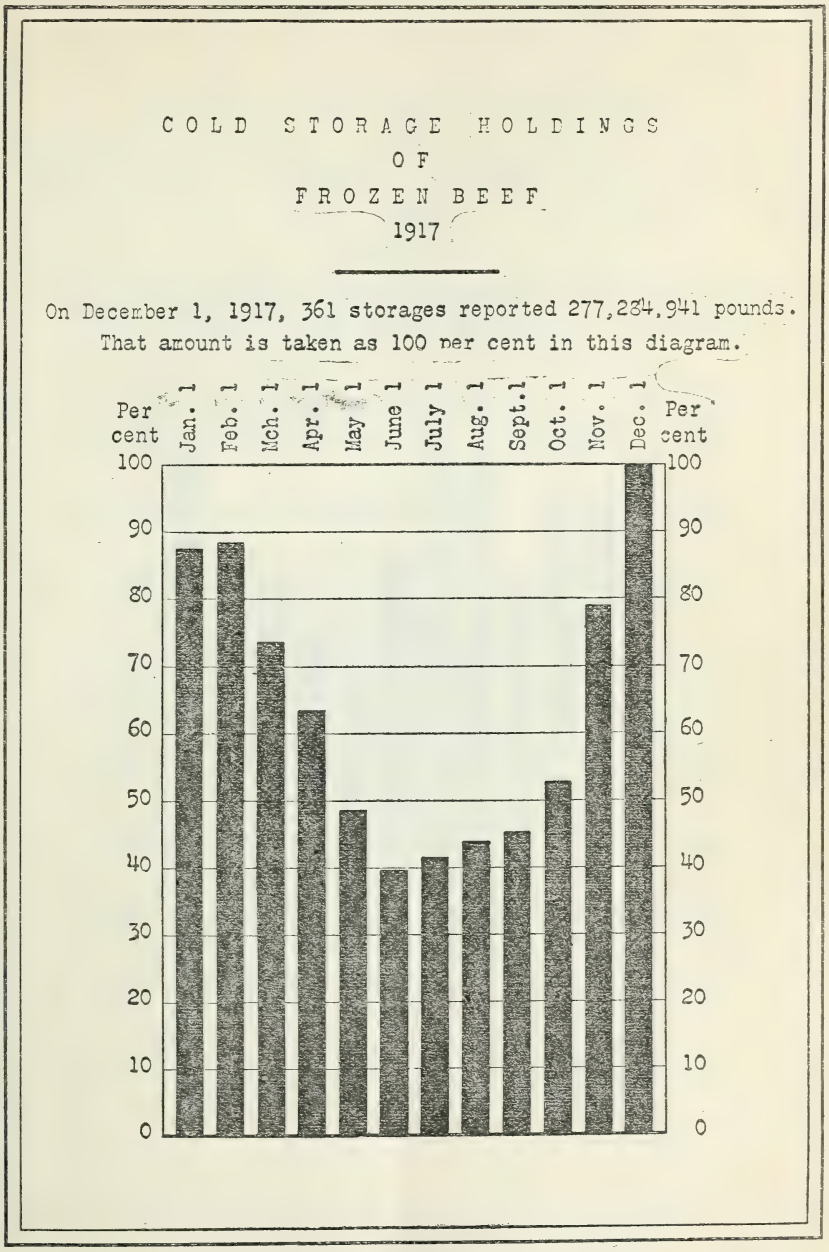

FIG. 10.

ber 1. The holdings of lamb and mutton, frozen, decreased from the maximum on January 1 to 37.1 per cent on June 1 and increased to 96.3 per cent on December 1.

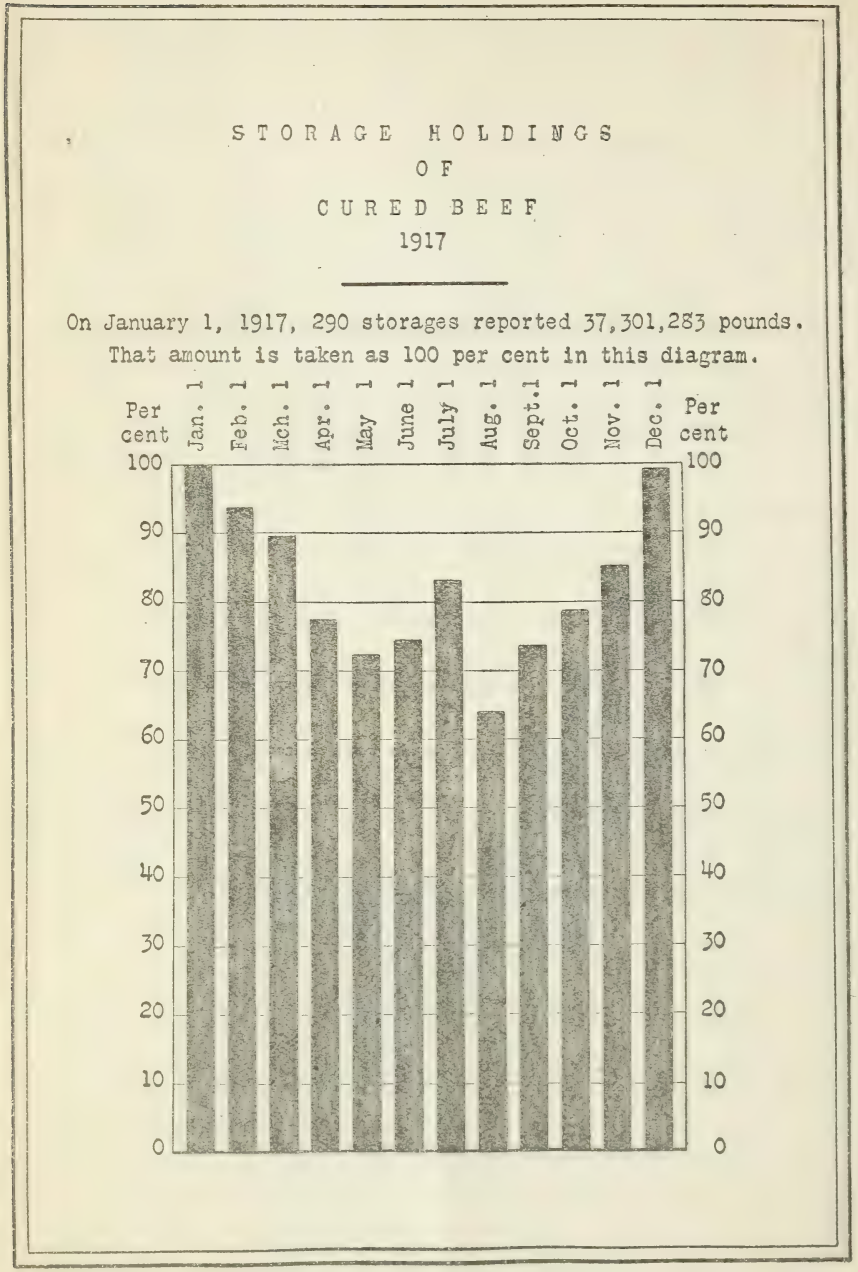
STORAGE HOLDINGS
OF
CURED BEEF
1917
On January 1, 1917, 290 storages reported 37,301,283 pounds.
That amount is taken as 100 per cent in this diagram.
Per cent
Jan. 1
Feb. 1
Mch. 1
Apr. 1
May 1
June 1
July 1
Aug. 1
Sept. 1
Oct. 1
Nov. 1
Dec. 1
Per cent
100
90
80
70
60
50
40
30
20
10
0

FIG. 11.

COLD STORAGE HOLDINGS
OF
FROZEN PORK
1917

On August 1, 1917, 264 storages reported 94,119,901 pounds. That amount is taken as 100 per cent in this diagram.

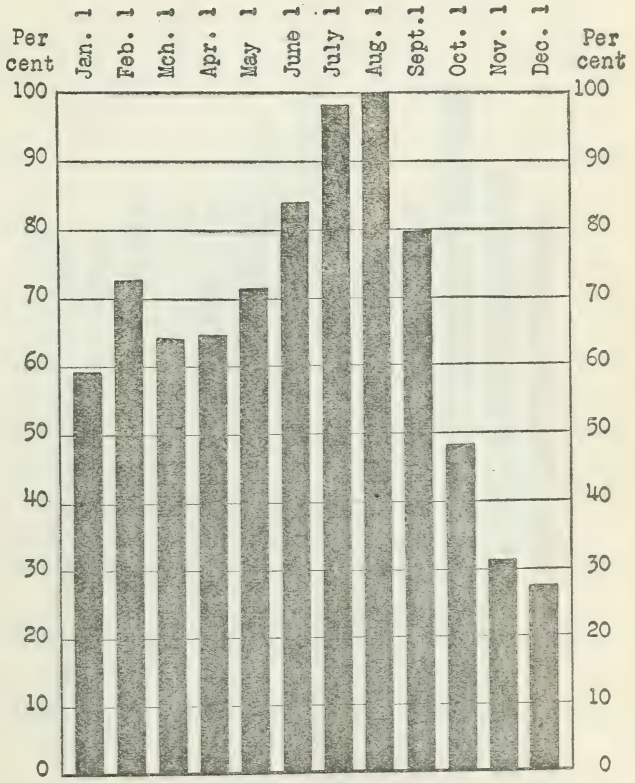

FIG. 12.

STORAGE HOLDINGS
OF
DRY SALT PORK
1917

On March 1, 1917, 233 storages reported 60,775,078 pounds.
That amount is taken as 100 per cent in this diagram.

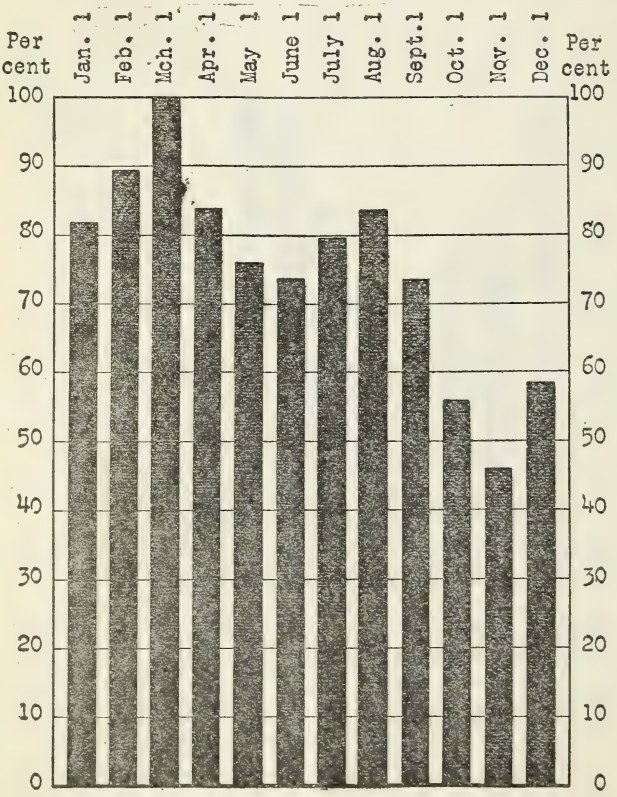

FIG. 13.

STORAGE HOLDINGS
OF
SWEET PICKLED PORK
1917

On July 1, 1917, 499 storages reported 412,328,689 pounds. That amount is taken as 100 per cent in this diagram.

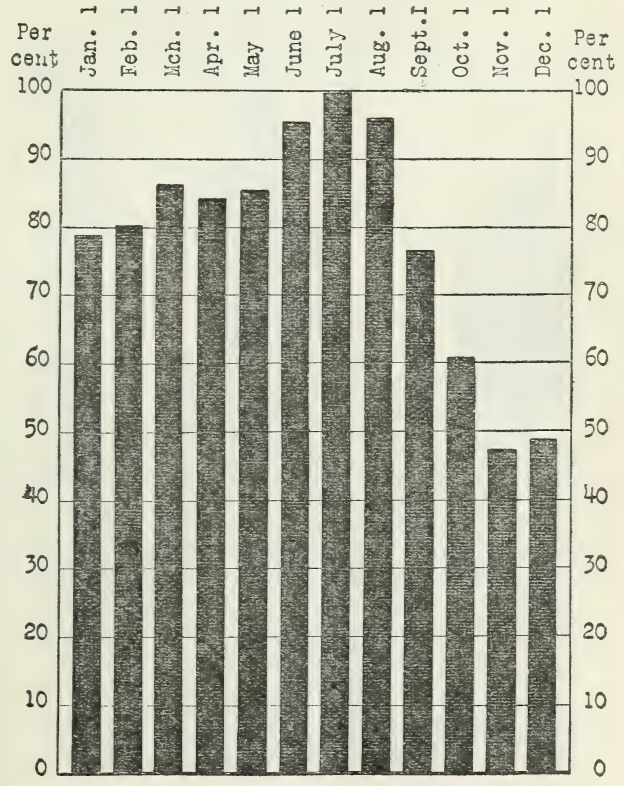

FIG. 14.

COLD STORAGE HOLDINGS
OF
LARD
1917

On August 1, 1917 500 storages reported 111,943,363 pounds.
That amount is taken as 100 per cent in this diagram.

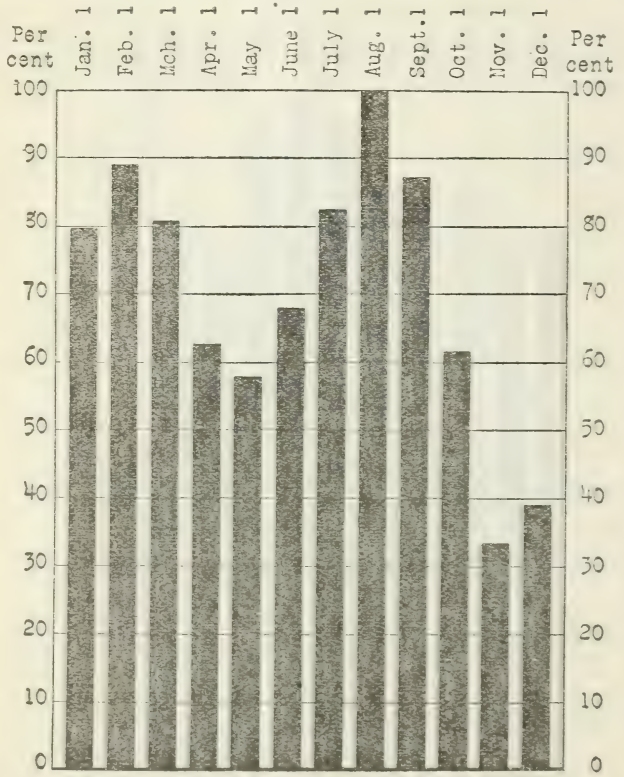

FIG. 15.

COLD STORAGE HOLDINGS
OF
LAMB AND MUTTON, FROZEN
1917

On January 1, 1917, 147 storages reported 4,885,678 pounds. That amount is taken as 100 per cent in this diagram.

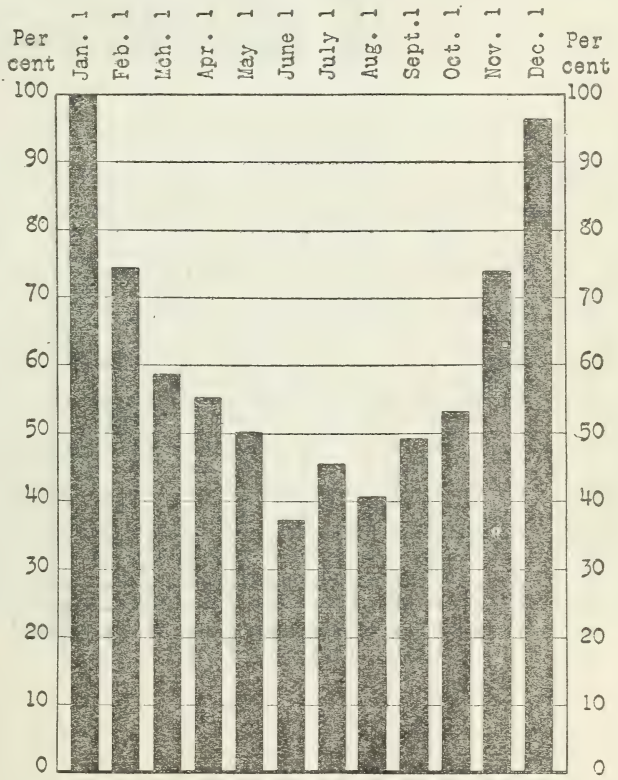

FIG. 16.

Tables 18 to 24 show the monthly holdings compared with the preceding months.

TABLE 18.—*Monthly cold-storage holdings of frozen beef during 1917, and comparison with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
Jan. 1, 1917	156	162,081,360	125,594,410	+36,486,950	+29.1
Feb. 1, 1917	155	157,103,183	155,013,457	+ 2,089,726	+ 1.3
Mar. 1, 1917	220	157,201,985	188,482,010	−31,280,025	−16.6
Apr. 1, 1917	230	126,360,301	146,457,651	−20,097,350	−13.7
May 1, 1917	230	92,879,934	121,081,394	−28,201,460	−23.3
June 1, 1917	230	88,715,445	107,968,163	−19,252,718	−17.8
July 1, 1917	221	104,870,548	100,228,187	+ 4,642,361	+ 4.6
Aug. 1, 1917	244	112,112,800	105,797,385	+ 6,315,415	+ 6.0
Sept. 1, 1917	235	116,136,428	112,523,410	+ 3,613,018	+ 3.2
Oct. 1, 1917	244	136,716,841	116,355,167	+20,361,674	+17.5
Nov. 1, 1917	270	205,824,640	137,772,543	+68,052,097	+49.4
Dec. 1, 1917	307	266,126,640	210,224,765	+55,901,875	+26.6

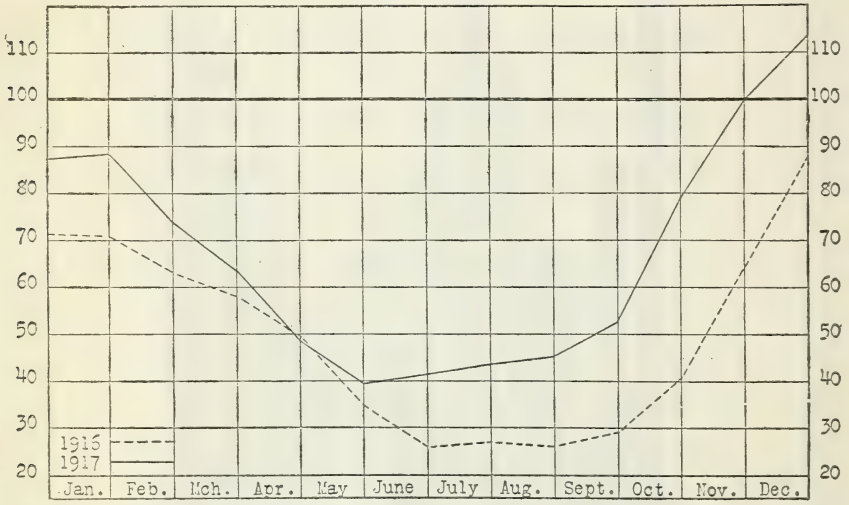

FIG. 17.—Relative monthly holdings of frozen beef during 1916 and 1917. Base, 100= holdings on December 1, 1917.

TABLE 19.—*Monthly storage holdings of cured beef during 1917, and comparison with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
Jan. 1, 1917	181	38,439,174	47,428,995	−8,989,821	−19.0
Feb. 1, 1917	202	33,575,449	36,349,490	−2,774,041	− 7.6
Mar. 1, 1917	233	36,728,363	39,062,781	−2,334,418	− 6.0
Apr. 1, 1917	246	29,263,529	35,189,360	−5,925,831	−16.8
May 1, 1917	267	27,552,608	29,843,367	−2,290,759	− 7.7
June 1, 1917	248	29,437,163	28,550,662	+ 886,501	+ 3.1
July 1, 1917	239	33,773,382	31,082,534	+2,690,848	+ 8.7
Aug. 1, 1917	243	25,060,046	28,420,259	−3,360,213	−11.8
Sept. 1, 1917	270	31,408,758	32,014,437	− 605,679	− 1.9
Oct. 1, 1917	276	32,364,729	30,954,458	+1,410,271	+ 4.6
Nov. 1, 1917	308	33,568,325	31,630,141	+1,938,184	+ 6.1
Dec. 1, 1917	320	38,276,227	33,465,310	+4,810,917	+14.4

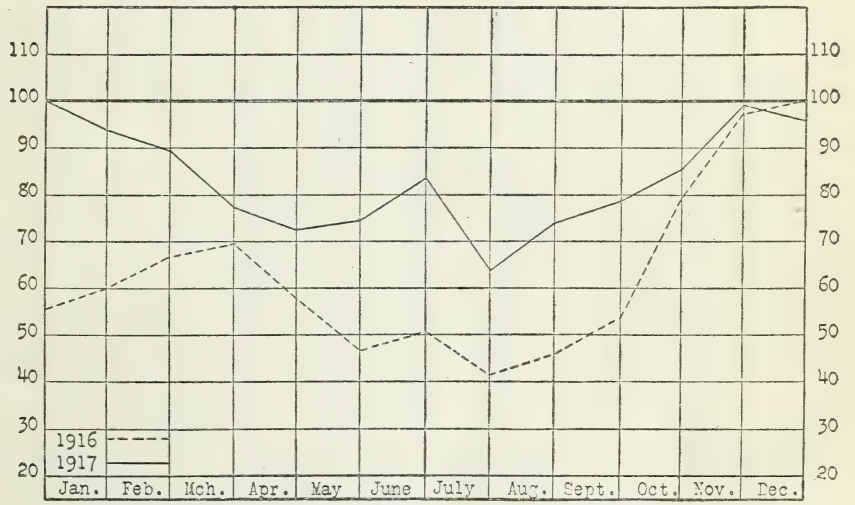

FIG. 18.—Relative monthly holdings of cured beef during 1916 and 1917. Base, 100=holdings on January 1, 1917.

TABLE 20—*Monthly cold-storage holdings of frozen pork during 1917, and comparison with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
Jan. 1, 1917	120	45,648,436	29,075,909	+16,572,527	+57.0
Feb. 1, 1917	121	52,833,715	42,408,647	+10,425,068	+24.6
Mar. 1, 1917	153	49,948,393	55,888,174	− 5,939,781	−10.6
Apr. 1, 1917	213	58,550,569	58,193,351	+ 357,218	+ 0.6
May 1, 1917	218	60,392,987	54,732,728	+ 5,660,259	+10.3
June 1, 1917	209	75,616,850	64,220,455	+11,387,395	+17.7
July 1, 1917	206	89,491,716	76,590,121	+12,901,595	+16.8
Aug. 1, 1917	237	93,408,245	91,689,280	+ 1,718,965	+ 1.9
Sept. 1, 1917	221	74,634,527	93,388,898	−18,754,371	−20.1
Oct. 1, 1917	241	45,285,742	75,029,920	−29,744,178	−39.6
Nov. 1, 1917	249	28,735,326	44,309,260	−15,573,934	−35.1
Dec. 1, 1917	274	25,497,926	29,005,340	− 3,507,414	−12.1

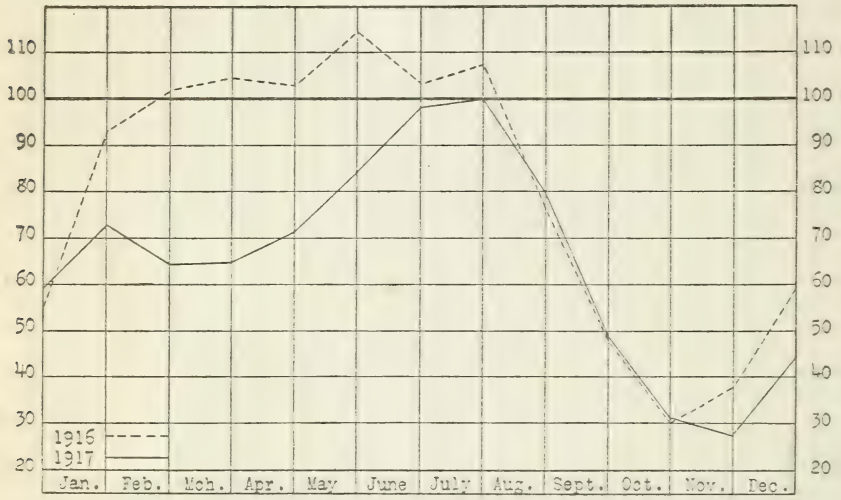

FIG. 19.—Relative monthly holdings of frozen pork during 1916 and 1917. Base, 100= holdings on August 1, 1917.

TABLE 21.—*Monthly storage holdings of dry salt pork during 1917, and comparison with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
Jan. 1, 1917	246	184,690,987	129,344,996	+55,345,991	+42.8
Feb. 1, 1917	255	214,604,063	196,247,587	+18,356,476	+ 9.4
Mar. 1, 1917	303	243,788,560	218,534,515	+25,254,045	+11.6
Apr. 1, 1917	316	217,594,215	261,736,543	−44,142,328	−16.9
May 1, 1917	315	193,164,545	215,792,160	−22,627,615	−10.5
June 1, 1917	310	190,630,435	198,483,381	− 7,852,946	− 4.0
July 1, 1917	320	211,466,840	197,421,385	+14,045,455	+ 7.1
Aug. 1, 1917	348	222,173,475	213,607,748	+ 8,565,727	+ 4.0
Sept. 1, 1917	352	197,079,394	227,454,392	−30,374,998	−13.4
Oct. 1, 1917	365	141,623,635	194,386,290	−52,762,655	−27.1
Nov. 1, 1917	369	111,422,361	141,960,556	−30,538,195	−21.5
Dec. 1, 1917	380	142,046,548	107,784,221	+34,262,327	+31.8

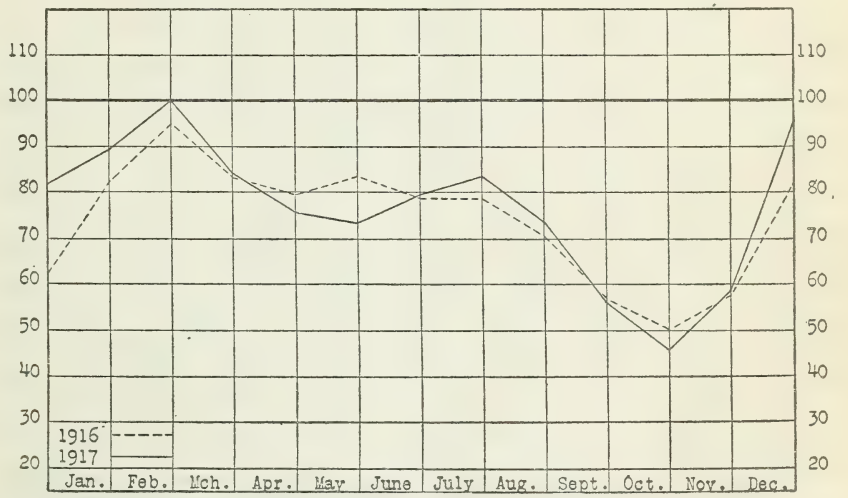

FIG. 20.—Relative monthly holdings of dry salt pork during 1916 and 1917. Base, 100= holdings on March 1, 1917.

TABLE 22.—*Monthly storage holdings of sweet pickled pork during 1917, and comparison with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
Jan. 1, 1917	301	270,354,895	206,484,558	+63,870,337	+30.9
Feb. 1, 1917	325	316,264,836	277,434,589	+38,830,247	+14.0
Mar. 1, 1917	365	346,799,810	326,884,602	+19,915,208	+ 6.1
Apr. 1, 1917	388	322,128,168	333,329,204	−11,201,036	− 3.4
May 1, 1917	394	325,396,220	322,993,115	+ 2,403,105	+ 0.7
June 1, 1917	386	356,299,671	322,101,701	+34,197,970	+10.6
July 1, 1917	408	397,423,620	382,978,998	+14,444,622	+ 3.8
Aug. 1, 1917	439	385,653,657	401,956,728	−16,303,071	− 4.1
Sept. 1, 1917	453	315,792,117	395,811,819	−80,019,702	−20.2
Oct. 1, 1917	468	249,373,004	314,401,861	−65,028,857	−20.7
Nov. 1, 1917	480	194,188,681	249,914,993	−55,726,312	−22.3
Dec. 1, 1917	482	194,995,871	188,178,419	+ 6,817,452	+ 3.6

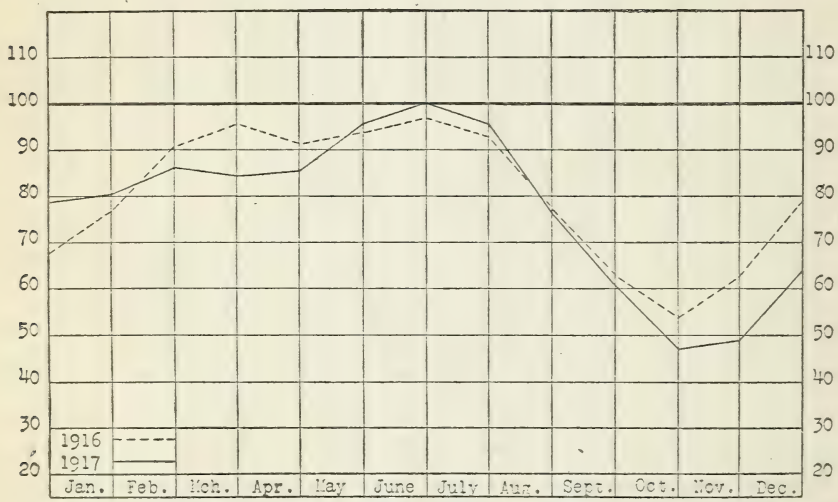

FIG. 21.—Relative monthly holdings of pickled pork during 1916 and 1917. Base, 100= holdings on July 1, 1917.

TABLE 23.—*Monthly cold-storage holdings of lard during 1917, and comparison with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
Jan. 1, 1917	263	77,140,438	52,140,708	+24,999,730	+47.9
Feb. 1, 1917	299	86,211,628	81,235,587	+ 4,976,041	+ 6.1
Mar. 1, 1917	343	79,394,281	89,448,583	−10,054,302	−11.2
Apr. 1, 1917	351	60,066,401	77,592,709	−17,526,308	−22.6
May 1, 1917	355	55,185,864	59,600,542	− 4,414,678	− 7.4
June 1, 1917	340	62,026,824	52,861,556	+ 9,165,268	+17.3
July 1, 1917	382	84,281,922	69,375,077	+14,906,845	+21.5
Aug. 1, 1917	433	104,126,736	86,003,992	+18,122,744	+21.1
Sept. 1, 1917	450	96,609,408	110,603,562	−13,994,154	−12.7
Oct. 1, 1917	458	67,841,468	96,520,048	−28,678,580	−29.7
Nov. 1, 1917	477	37,133,757	68,051,027	−30,917,270	−45.4
Dec. 1, 1917	491	42,810,675	36,767,313	+ 6,043,362	+16.4

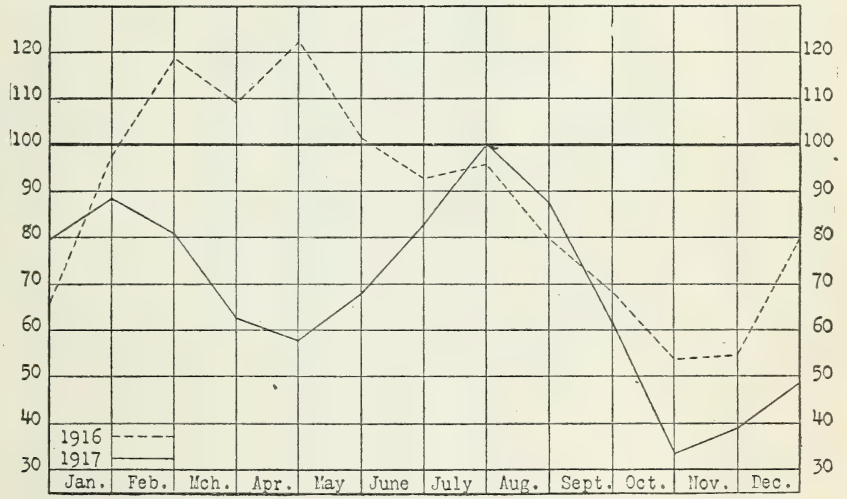

FIG. 22.—Relative monthly holdings of lard during 1916 and 1917. Base, 100=holdings on August 1, 1917.

TABLE 24.—*Monthly cold-storage holdings of frozen lamb and mutton during 1917, and comparison with holdings of preceding months.*

Month.	Storages reporting.	Comparative holdings.		Increase or decrease.	
		Current month.	Preceding month.		
				Pounds.	*Per cent.*
Jan. 1, 1917	87	4,926,526	4,716,108	+ 210,418	+ 4.5
Feb. 1, 1917	96	4,103,243	5,529,321	−1,426,078	−25.8
Mar. 1, 1917	112	4,685,029	5,926,100	−1,241,071	−20.9
Apr. 1, 1917	128	4,533,649	4,833,390	− 299,741	− 6.2
May 1, 1917	134	4,298,097	4,729,732	− 431,635	− 9.1
June 1, 1917	111	3,331,608	4,503,674	−1,172,066	−26.0
July 1, 1917	107	3,992,684	3,262,198	+ 730,486	+22.4
Aug. 1, 1917	127	3,560,485	3,977,137	− 416,652	−10.5
Sept. 1, 1917	129	2,892,120	3,598,771	− 704,651	−19.6
Oct. 1, 1917	137	3,152,313	2,918,215	+ 234,098	+ 8.0
Nov. 1, 1917	153	4,609,309	3,315,776	+1,293,533	+39.0
Dec. 1, 1917	158	6,072,665	4,661,257	+1,411,408	+30.3

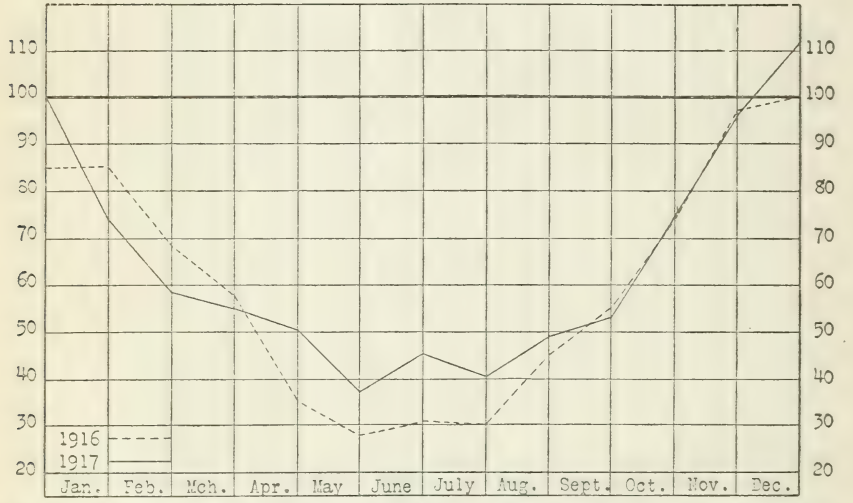

FIG. 23.—Relative monthly holdings of lamb and mutton, frozen, during 1916 and 1917. Base, 100=holdings on January 1, 1917.

Considerable difficulty was encountered in obtaining reports of the 1916 holdings of frozen and cured meats. In asking for data showing the holdings of each month during 1917, the storages were also requested to report amounts held on the same date in the previous year. Some of the figures reported were estimates, and the curve on the charts showing the holdings of 1916 should be considered as showing the general trend of the movement and not exact percentages.

STORAGE HOLDINGS OF FISH, DECEMBER 15, 1917.

Table 25 shows the holdings of fish as reported on December 15, 1917, segregated into the different sections. These reports have not been received for a sufficient number of months to indicate the movement into and out of storage.

TABLE 25.—*Holdings of fish reported Dec. 15, 1917.*

Varieties.	Atlantic.		Central.		Western.		Total.	
	Storages.	Pounds.	Storages.	Pounds.	Storages.	Pounds.	Storages.	Pounds.
Bluefish	15	156,192	23	20,652	1	.....	39	176,844
Butterfish	42	1,129,367	10	4,044	1	.....	53	1,133,411
Ciscoes	30	6,431,335	28	2,442,448	1	.....	59	8,873,783
Cod, hake, pollack	40	4,001,193	42	248,917	11	403,443	93	4,653,553
Croakers	16	450,404	2	210	2	240	20	450,854
Halibut	26	984,052	50	920,775	23	5,139,715	99	7,044,542
Herring	46	4,109,796	48	3,745,902	7	101,612	101	7,957,310
Herring, cured	21	4,610,891	36	1,621,627	9	560,684	66	6,793,202
Lake trout	13	207,948	47	806,360	3	299	63	1,014,607
Mackerel	43	2,977,388	32	111,252	9	240,684	84	3,329,324
Rock fishes	3	16,898	4	61,520	6	30,752	13	109,170
Sablefish	4	4,207	21	196,485	16	1,650,664	41	1,851,356
Salmon, mild cured	12	1,240,122	16	502,461	22	2,542,985	50	1,947,231
Salmon, fall	18	313,244	38	157,120	18	1,476,887	74	4,285,568
Salmon, silver	13	192,732	29	51,485	18	838,204	60	1,082,421
Salmon, other	16	190,968	24	122,718	22	995,195	62	1,308,881
Sea bass	22	327,645	11	20,190	5	13,299	38	361,134
Shad	35	285,478	16	173,851	11	57,136	62	516,465
Shad roe	16	33,349	22	17,021	10	65,907	48	116,277
Smelts, etc	18	178,261	33	323,960	14	449,674	65	1,001,895
Squid	26	2,375,444	6	12,328	2	42	34	2,387,814
Weakfish	24	1,132,214	.....	.....	1	.....	25	1,132,214
Whitefish	16	328,289	57	1,281,796	2	.....	75	1,610,085
Whiting	45	10,602,850	36	260,976	2	92	83	10,863,918
Miscellaneous	53	3,945,706	66	4,823,326	23	1,024,640	142	9,793,672
Total	69	46,225,953	83	17,927,424	33	15,642,154	185	79,795,531

SELECTED LIST OF PUBLICATIONS ON COMMERCIAL HOLDINGS.

The following is a list of statistical publications issued by the United States Department of Agriculture on the commercial holdings of the food products discussed in this bulletin. The Bureau of Markets has continued to issue detailed monthly reports in mimeographed form covering the storage holdings since the close of the 1916–17 season. (See p. 12.) The holdings for May 1, 1918, and subsequent months have been given in summary form in the publication entitled "Food Surveys."

Bureau of Statistics. Bulletin 93: Cold-Storage Business Features. Reports of Warehouses. 1913.

Bureau of Statistics. Bulletin 101: Cold Storage and Prices. 1913.

Office of the Secretary. Circular 97: The Supply of Lard in the United States: Its Extent and Distribution on August 31, 1917. 1918.

Office of the Secretary. Circular 101: Commercial Stocks of Miscellaneous Animal Food Products in the United States on August 31, 1917: Hams, Bacon and Shoulders, Salt Pork, Salt Beef, Salt Fish, and Condensed Milk. 1918.

Bureau of Markets. Food Surveys—Vol. 1, no. 4: Commercial Stocks of Lard (January 1, 1918); Vol. 1, no. 7: Commercial Stocks of Dairy and Related Products (January 1, 1918); Vol. 1, no. 9: Commercial Stocks of Meat and Meat Products (January 1, 1918); Vol. 1, no. 10: Commercial Stocks of Fish (January 1, 1918); Vol. 2, no. 3: Commercial Stocks of Dairy and Related Products, Not Including Retail Stocks (July 1, 1918); Vol. 2, no. 6: Commercial Stocks of Lard, Not Including Retail Stocks (July 1, 1918); Vol. 2, no. 9: Commercial Stocks of Cured Meat and Fish, Not Including Retail Stocks (July 1, 1918). 1918.

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